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BEST BUY HOSPITALS
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EVALUATION REPORT

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SUPPLY AND DISPOSAL SYSTEMS

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EVALUATION OF THE SUPPLY AND DISPOSAL SYSTEMS

AT THE BEST BUY HOSPITALS

DHSS Commission No H77/S/A/555A

Hazel Grayson
Medical Architecture Research Unit
The Polytechnic of North London

1978

Acknowledgements

The author is indebted to many people for their help and co-operation in this study; to the Administrators and Senior Nursing Officers of the two hospitals for their part in organising interviews and in providing information for the report; to all the staff of the hospitals and representatives of District and Area support services who took part in interviews; to Brian Frost of the DHSS for his advice regarding the study of the supply and distribution of catering commodities; to staff of the Hospital Design Partnership, particularly Chris Edwards, for sharing information collected for their more general evaluation of Best Buy;* to John Grayson for his assistance with graphic work, to John Ward (Project Liaison Officer) of the DHSS and to members of MARU, particularly Carole Rawlinson and Ray Moss, for their advice throughout the project - and to these same people, as well as to Jack Willers of the DHSS, for their constructive comments on the completion of the report.

Finally the author is indebted to The Polytechnic of North London for the provision of support facilities.

* An Evaluation of the Best Buy Hospitals 1978,
a report commissioned by the DHSS,
and undertaken by the Hospital Design Partnership.

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G L O S S A R Y

Methods of distributing supplies to users

TOPPING-UP

The NCB Operational Research Executive distinguish 'Pre-view Topping-up' from 'Topping-up'.[1]

> PRE-VIEW TOPPING UP requires that Supply staff tour delivery points to note the quantity and type of commodities that are needed to bring local supplies to an agreed level. On a subsequent tour these commodities are delivered. 'The major advantage lies in eliminating the administrative effort and associated time delay of the requisitioning procedure'.[1]
>
> TOPPING-UP. Supply staff load a trolley with a range of commodities and make a tour of local delivery points leaving sufficient to bring the local supplies to their agreed level.
>
> 'This method eliminates the pre-view round by supply staff, but, in general, more goods will need to be moved than are required and supplementary trips may be necessary'.[1]

For the purpose of this study, both these styles of supply have been labelled simply 'topping-up' and the particular features of the method are described in context.

EXCHANGE-TROLLEY

At the local level, the stock of a particular commodity is stored in a trolley, from whence it is used as required. This trolley will be replaced by (exchanged for) a full trolley at regular intervals.

'The main disadvantage is the need to have more trolleys in the system - at least one extra per delivery point - for which parking space would need to be provided.'[1]

STANDARD ISSUE

'Supply staff regularly provide standard quantities of goods ... to wards and departments regardless of the actual quantity consumed.'[1]

---

1 National Coal Board Operational Research Executive
Report on Supplies within a New District General Hospital
(O.R. 870/1/2)
DHSS, March 1970

'DIRECT-TO-USER', for the purpose of this study, means that the supply of a commodity is received ready-packaged for distribution to users, i.e., it is not necessary for Supply staff to do any unpacking before the goods are distributed.

NB 'BULK-BREAKDOWN', or breakdown of supply from bulk, refers to the unpacking process that is necessary when supplies are not received in a form suitable for 'direct-to-user' issue.

INTRODUCTION

This is the report of a study, commissioned by the Department of Health and Social Security, with the major aim of comparing current operations of supply and disposal at the Best Buy Hospitals with those which were proposed by the Project Team during the design and planning stages of the Best Buy programme. These latter, set out in the planning policies,[1] were developed with the aim of making efficient use of a building which was to be economic while 'maintaining a proper balance between capital and running costs'.[2]

A further aim of this study was to explore the success or failure of the hospital buildings to accommodate current practices in the supply, storage and disposal of commodities.

Finally, the study sought to ascertain whether, in the eyes of the users, the supply and disposal systems as they now exist, though perhaps differing from those planned, nevertheless meet the general principles proposed for them. These were that they should be simple to operate, reliable, flexible enough to accommodate changes in need, economic in terms of both capital and running costs, while at the same time embodying high standards in measures of security and control of infection.

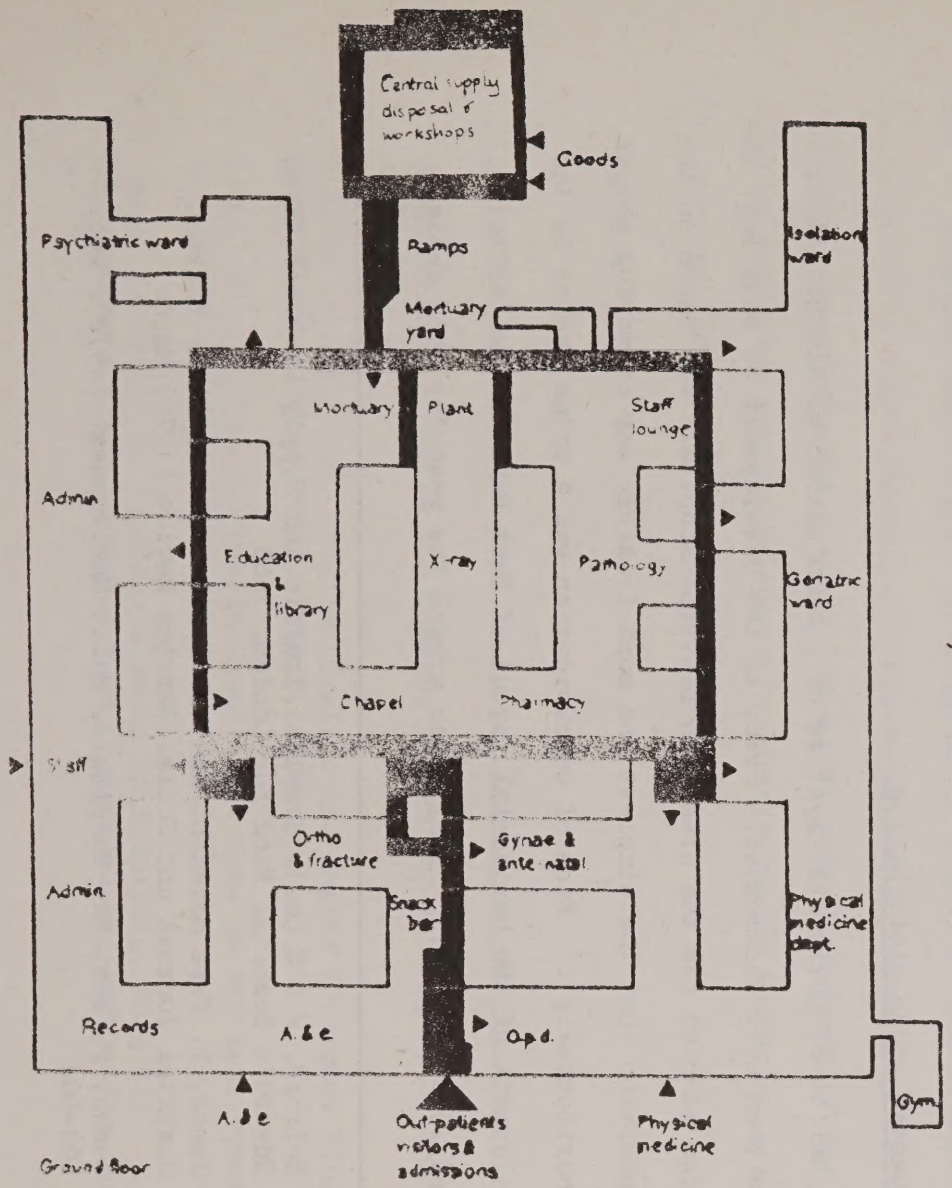
The supply of commodities to a hospital is not administered solely by

---

1 Final 'Best Buy' Planning Policies, particularly No IID 'Delivery of Supplies; Disposal; Stores and Pharmacy' and Supplement to Policy IID.

2 New District General Hospitals at Bury St Edmunds and Frimley. Rationalisation of Planning and Design Ministry of Health, March 1968, 1-2

one Supplies Organisation; there are additional organisations for the supply of clean linen, sterile goods and pharmaceuticals. The supply of engineering and works materials may also be administered separately. This study is concerned with all commodities used in the hospitals and the term 'supplies' must be seen in its broadest sense.


Central supply
disposal &
workshops
Goods
Ramps
Psychiatric ward
Isolation
ward
Mortuary
yard
Mortuary
Plant
Staff
lounge
Admin
Education
&
library
X-ray
Pathology
Geriatric
ward
Chapel
Pharmacy
Staff
Ortho
& fracture
Gynae &
ante-natal
Admin
Snack
bar
Physical
medicine
dept.
Records
A. & e.
O.p.d.
A. & e.
Out-patients
visitors &
admissions
Physical
medicine
Gym
Ground floor

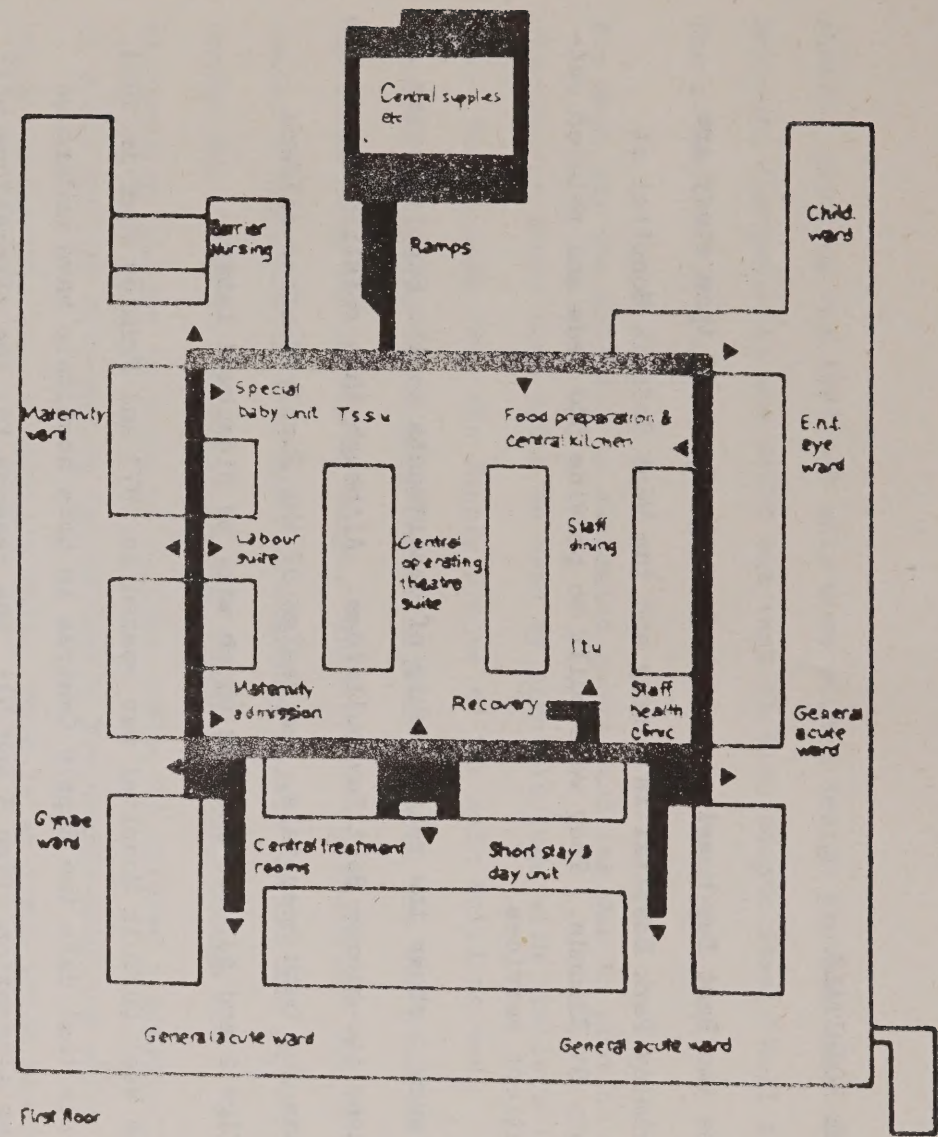

Central supplies
etc
Barrier
Nursing
Ramps
Child.
ward
Special
baby unit
Tssu
Food preparation &
central kitchen
Maternity
ward
E.n.t.
eye
ward
Labour
suite
Central
operating
theatre
suite
Staff
dining
Itu
Maternity
admission
Recovery
Staff
health
clinic
General
acute
ward
Gynae
ward
Central treatment
rooms
Short stay &
day unit
General acute ward
General acute ward
First floor

FIGURE 1

THE HOSPITALS

The two Best Buy hospitals which form the focus of this study are Frimley Park Hospital in Surrey and the West Suffolk Hospital at Bury St Edmunds. They were built to provide 540 beds and related out-patient services.

Figure 1 shows the relationship of departments to the Supply Centre in these two-storey Best Buy buildings. Although this relationship is the same for both hospitals, the design of the Supply Centres differs (figs 2 and 4), for reasons which will be discussed later.

The West Suffolk Hospital was opened in 1973 and Frimley Park in 1974. Since that date the Supply Centres in both hospitals have undergone some alteration (figs 3 and 5); the reasons for the alterations will receive attention later in the report.

Automated goods distribution

The merits of horizontal systems of communication within hospitals have been well documented. Prior to the development of Best Buy, the design adopted for the Greenwich District Hospital 'was based on the proposition that the simplest and moxt flexible way of moving people is horizontally'.[1] Ease of communication was a prime factor in the development of the horizontal layout of Best Buy. In two articles, dated 1970[2] and 1972,[3] Paul James argued the case for this design

---

1 Holroyd, W A H (ed), Hospital Traffic and Supply Problems, King Edward's Hospital Fund for London, 1968

2 James, P, Free Movement and the Horizontal Hospital, British Hospital Journal and Social Service Review (1970) March

3 James, P, Best Buy Hospitals, Built Environment (1972), Dec, 601-604

choice, pointing out that not only does such a design provide ease of movement for patients and staff but that it also adapts itself well to the automation of goods-handling, thus saving on running costs.

For Best Buy the solution to automated goods-handling was to provide a circulation route that could be used by electric tugs with trailers in tow. Thus access from the Supply Centre to the main building was achieved by siting the Supply Centre mid-way between the two storeys and connecting the levels by ramps. This solution, which was one of a number of options, is discussed in Planning Policy No IID and in the Design Report BB3.[1] Briefly, it was chosen because, though not necessarily cheaper in terms of capital costs, it offered a possibility of staff savings by reducing the necessity for double-handling which would occur with, say, a conveyor belt. This is an issue which has not been explored for the purposes of this study; timescale and resources made it feasible only to gain the hospital or District view of economy, not to mount a large comparative exercise on costs incurred by different hospitals using different schemes. However, some discussion of the range of automated systems in use in hospitals can be found in, e.g. W.A. Holroyd,[2] John Leach[3] and Paul James.[4]

---

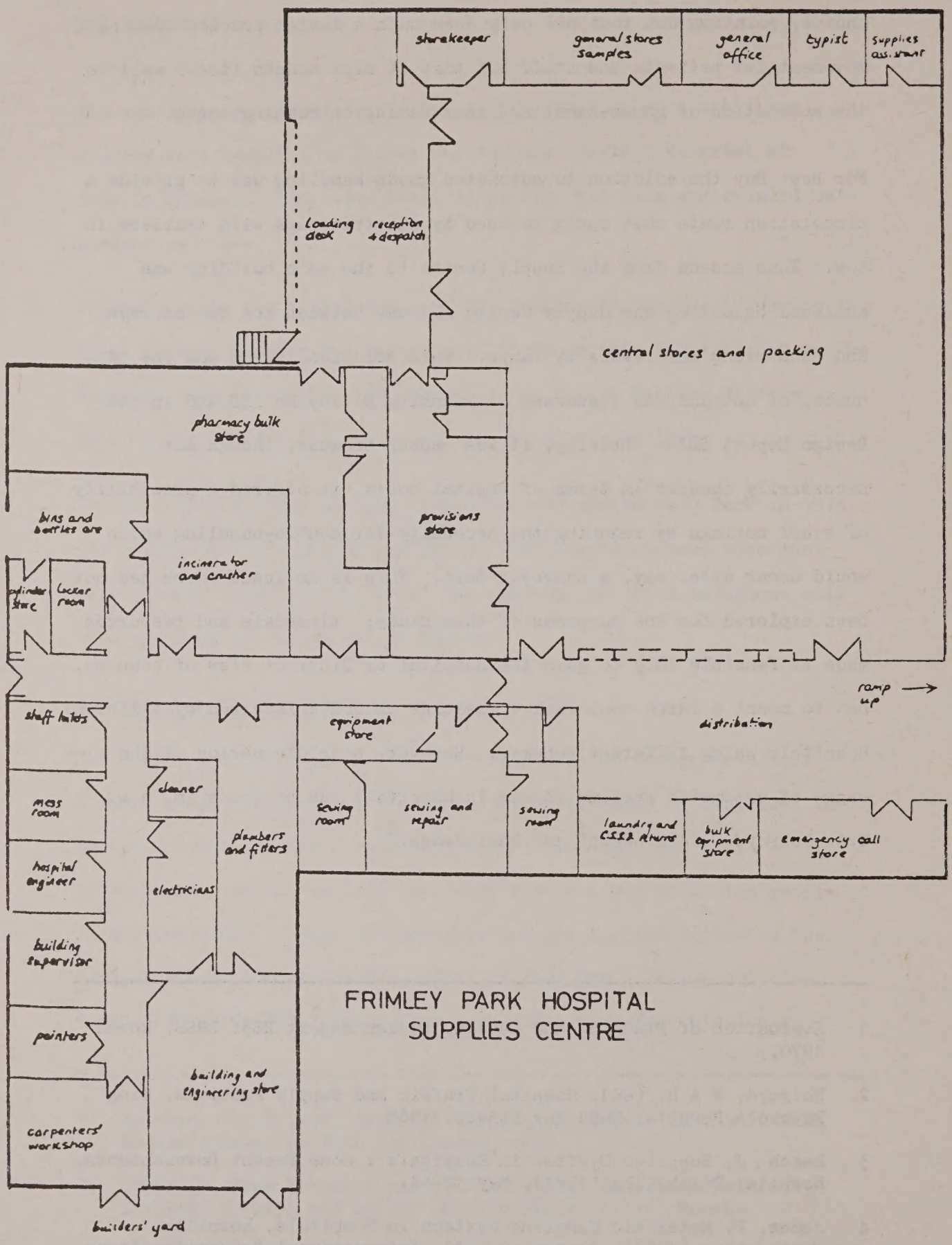
1 Evaluation of Planning and Design, Design Report BB3, DHSS, March 1970.

2 Holroyd, W A H, (ed), Hospital Traffic and Supply Problems, King Edward's Hospital Fund for London, 1968.

3 Leach , J, Supplies Systems in Hospitals : Some Recent Developments, Hospital Purchasing (1971), May 12-14.

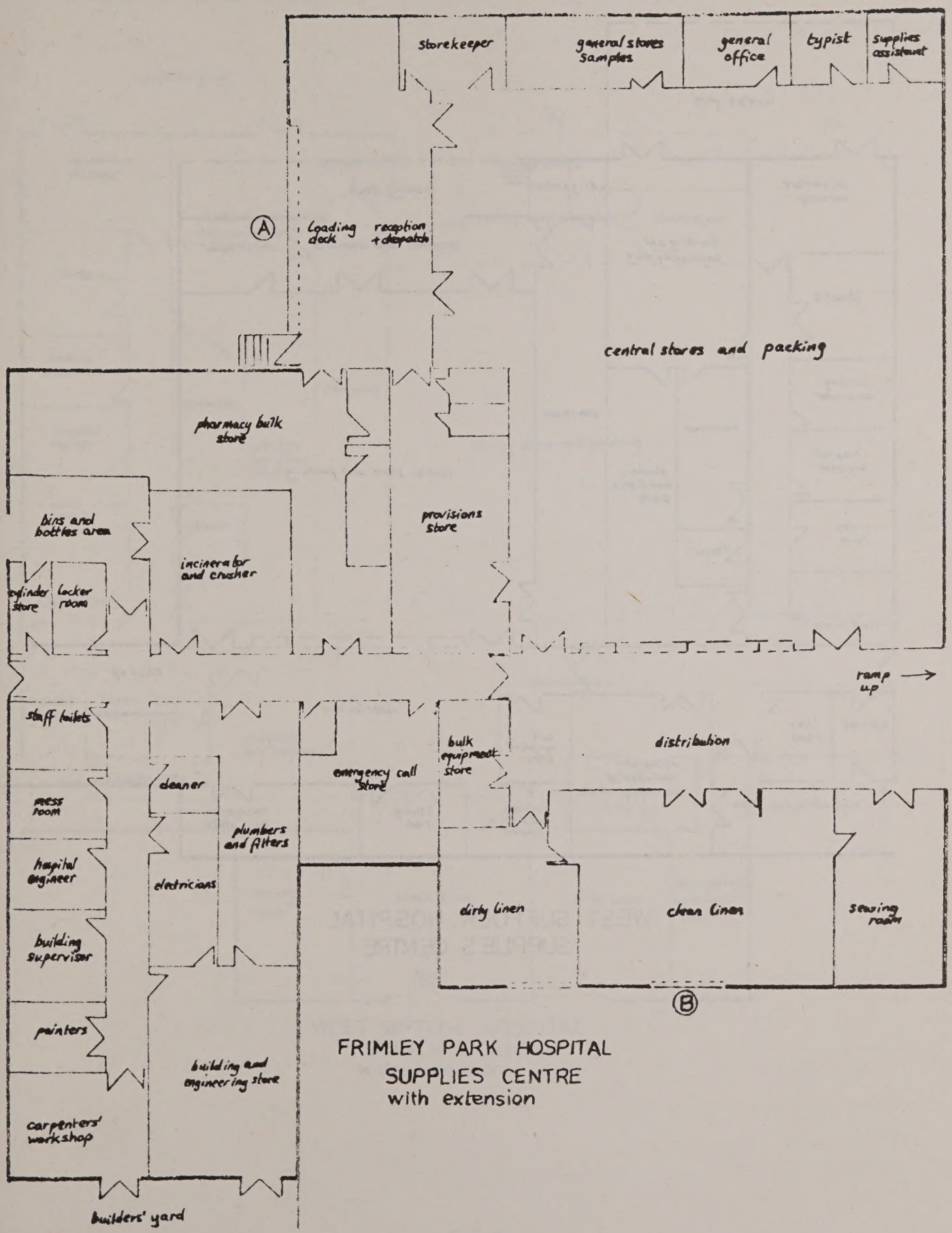
4 James, P, Materials Handling Systems in Hospitals, Hospital Engineering (1974), September 5-13, International Rederation Issue No 11.

FIGURE 2



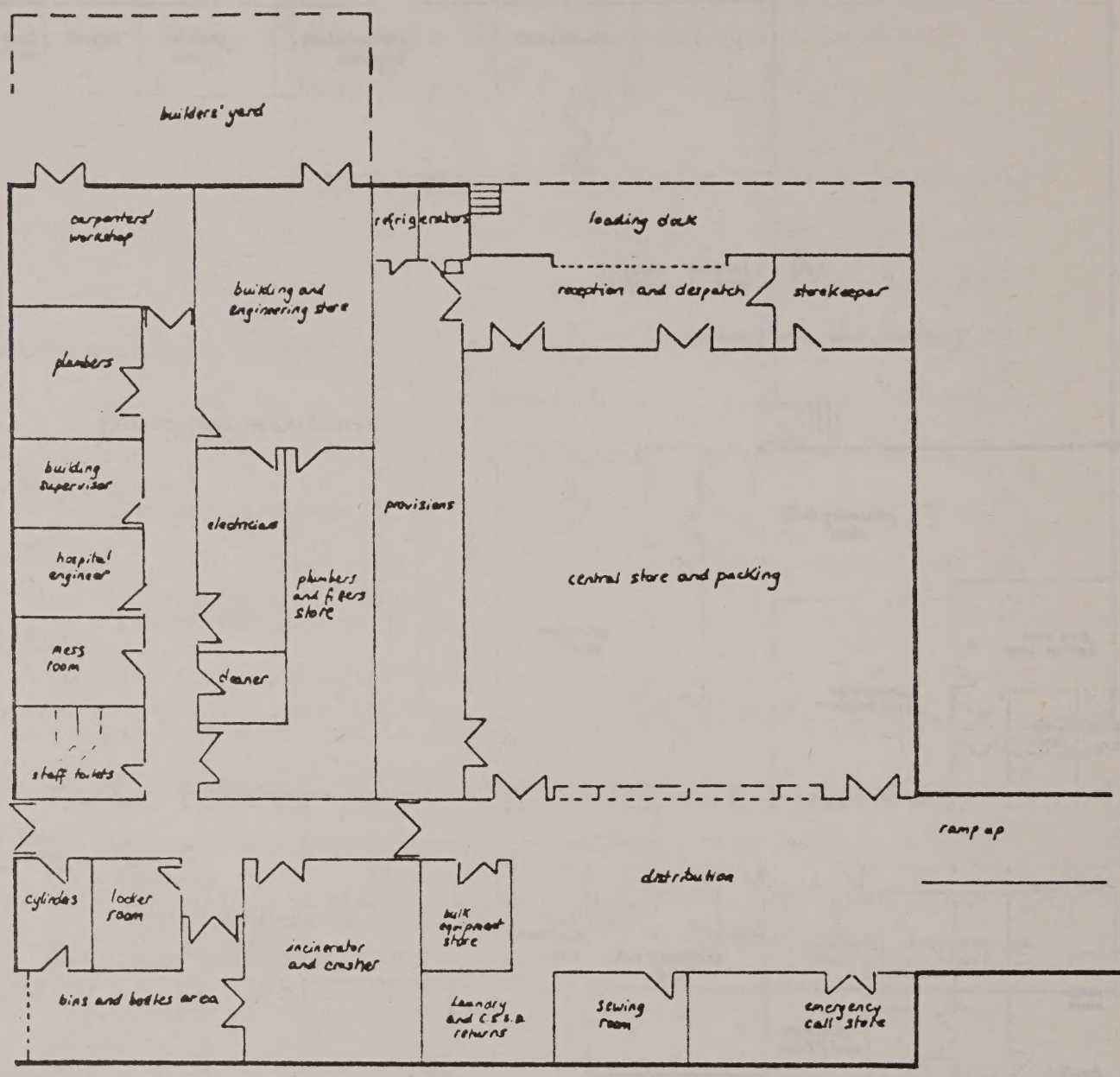
FRIMLEY PARK HOSPITAL
SUPPLIES CENTRE

FIGURE 3



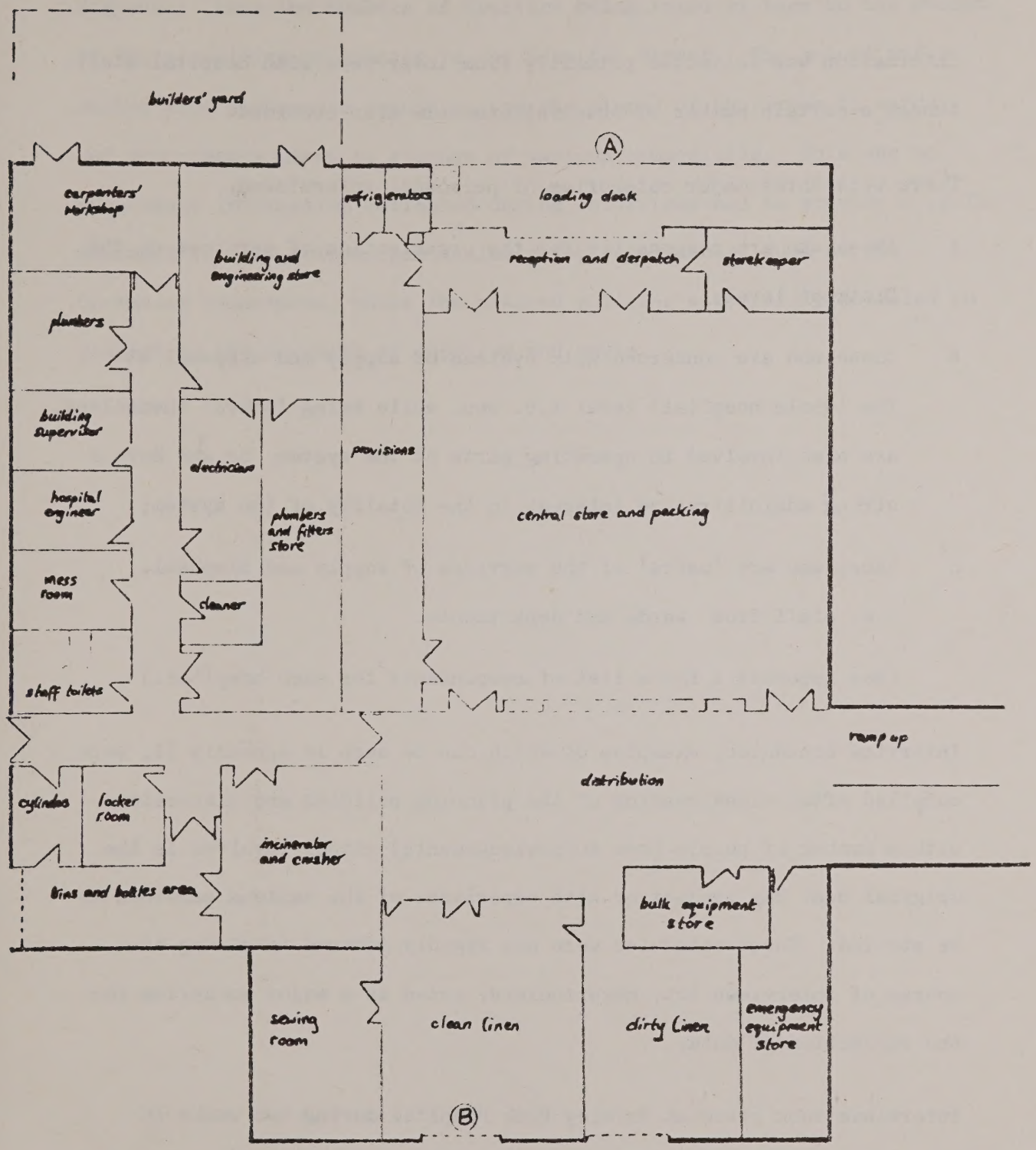
FRIMLEY PARK HOSPITAL
SUPPLIES CENTRE
with extension

FIGURE 4



WEST SUFFOLK HOSPITAL
SUPPLIES CENTRE

FIGURE 5



WEST SUFFOLK HOSPITAL
SUPPLIES CENTRE
with extension

METHODOLOGY

Information was collected primarily from interviews with hospital staff, though a certain number of observations were also recorded.

There were three major categories of personnel interviewed,

a those who are responsible for the organisation of services at the District level;

b those who are concerned with systems of supply and disposal at the 'whole hospital' level i.e. who, while being 'users' themselves, are also involved in operating parts of the system, or who have a strong administrative interest in the totality of the system;

c those who are 'users' of the services of supply and disposal, i.e. staff from wards and departments.

(See Appendix I for a list of respondents for each hospital.)

Interview schedules, examples of which can be seen in Appendix II, were compiled after close reading of the planning policies and discussions with a number of people (see Acknowledgements) either involved in the original Best Buy project or with experience of the various services to be studied. These schedules were not rigidly adhered to during the course of interviews but, nevertheless, acted as a major guideline for the collection of data.

Interviews took place at Frimley Park Hospital during two weeks in February 1978 and at the West Suffolk Hospital during March of the same year. Subsequent visits to the organisers of off-sited services have taken place in April and May.

Observations recorded during study periods were of two types. The

first was an unsystematic noting of any visible aspects of supply and disposal; from the numbers of trailers being towed by tugs to the amount of waste awaiting collection in the Hospital Street. The second was a rather more systematic recording (on the plans) of the areas in wards and departments given to storage of various commodities. This was to supplement information collected during interviews and to provide a useful document for comparison, particularly for departments, such as the Operating Department, where the planned policies were fairly detailed in respect to the movement of supplies and waste.

SECTION 1 : ORGANISATION OF THE MAIN STORES, LOCATED IN THE SUPPLY CENTRES, AND THEIR RELATION TO THE WIDER SUPPLIES NETWORK

The planning programme for the Best Buy hospitals took place before the reorganisation of the National Health Service and thus preceded the reorganisation of the Supplies service to fit in with the current administrative boundaries for Area Health Authorities. However, Suffolk and Surrey had already accepted recommendations made in the Hunt Report[1] to establish an 'area' supplies structure, i.e. an organisation serving the needs of a number of hospital groups. Detailed planning of the Hospital Stores and recommendations for their organisation were thus made in this knowledge.

This section will compare the current organisation of the Stores at the two hospitals with that suggested in the planning policies. First, however, some background to the current organisation of NHS Supplies is given.

1.1 Supplies organisation within the National Health Service

The Hunt Report of 1966 had recommended the appointment of Area Supplies Officers who would be responsible for purchasing supplies for a number of hospital groups. The major aim was to promote more economically viable purchasing through the arrangement of large-scale contracts. The then Regional Hospital Boards had been given some scope in the way they organised the new area structures so that details of the organisation over which the Area Supplies Officers presided were likely to vary; Hospital Management Committee (HMC) Supplies Officers' posts were retained in some regions but phased out in others in favour of a more autonomous area organisation. The majority of Area Supplies Officers took up their posts in 1969 and 1970.[2]

In comparison with this fairly radical restructuring of supplies organisation, the reorganisation of the NHS may have had little further impact: the post of the Area Supplies Officer remained, although the boundaries of the Area for which he was purchasing officer may have changed. Where Supplies Officers for hospital groups had been retained they became District Supplies Officers.

The current organisation is not without its critics. The economic merits of large-scale contracting are recognised.[2,3] However, at District level there is a good deal of concern that the network of levels through which communications must now be channelled and the loss of the direct link between the supplier and the user have led to a system which is too unwieldy to be responsive to the needs of consumers at hospital level,[3] while some would argue that the system should be more autonomous - that it should be centrally controlled at a national level.[4]

The recent report of the Supply Board Working Group,[5] which is currently awaiting response from the Health Authorities, recommends a rationalisation of the Supplies organisation such that Supplies policy would not be decided at a lower level than the Area and that Stores would be organised on an Area or joint Area basis. It further recommends that a Supply Council - a special Health Authority - should be set up as a policy-making body. This body would provide information to enable users to make the best choice of equipment and supplies and would determine for each item of supplies the optimum level of purchasing (i.e. National, Regional, Area, etc.) the best form of contract and, where appropriate, the right specifications. The over-riding aim of the recommendations is to obtain the best value for money in the procurement of supplies.

Within the limits of this report it is not possible to enter into a debate about the advantages and disadvantages of national supplies

policy nor, indeed, to consider the effect that a new national system would have on supply at the hospitals studied. However, the fact that the implementation of a new system of supplies procurement and storage is imminent makes it no less important that local views relating to the distribution and storage of supplies within the hospital should be recorded. Furthermore, where the intra-hospital system reflects the wider organisation of supplies currently existing in Area and District, local opinion may provide useful data for those charged with evaluating a new system. Purchasing and stockholding problems may well be solved by rationalisation of the current Supplies system but, whatever its economic advantages, a Supplies system can only be wholly successful if the consumer is satisfied.

It should be stressed, at this point, that the opinions canvassed for this report are mainly those of Hospital and District staff, the opinions of Area personnel are not represented - this is because the main focus of the study is the supply and disposal system within the individual hospital.

---

1 Ministry of Health,
Report of the Committee on Hospital Supplies Organisation
Chairman: Hunt, J F

2 Rooke-Matthews, E J
Developments in the Hospital Supplies Service: 1970-1972
Hospital and Health Services Purchasing (1972) June, 160-161

3 Pearce, L
Hospital Supplies - Has the Service Improved?
Health and Social Service Journal (1976) July 1305-1306

4 Campbell, A W C
The Organisation of Supplies
Health and Social Service Journal (1973) March, 480-483

5 Department of Health and Social Security
Report of the Supply Board Working Group
London, DHSS, May 1978

1.2 Stores management: Frimley Park Hospital

Planning policies for Stores management: Frimley Park Hospital

Because of changes taking place in the organisation of supplies services at the time of planning, the planning policies could not include a very firm proposal for administrative responsibility in relation to supplies. However, they presented the situation which was likely to prevail.

It was envisaged that,

(1) Frimley Park Stores would be the base for a Group Supplies organisation serving Frimley, Farnham and Fleet;

(2) the full range of management functions (intermediate levels of ordering, quality control, receiving travellers and samples, stock-taking and accounting) could be undertaken in the Supply Centre, where offices would be provided for a Supplies Assistant, a typist and two clerks;

(3) a Group Supplies Officer, or someone with authority to advise on supply matters and carry out policy decisions, would be located in the hospital (and originally an office in the Administration area was to be allocated to this person, though the final-detail plans show no such specific allocation);

(4) a storekeeper/clerk located in the Reception area of the Supply Centre would undertake the day-to-day management of the Supply Centre's business (ensuring goods were received, checked and stored and that user requirements were satisfied).

In addition to those personnel already mentioned it was anticipated that Stores staff would include six storemen/porters.

(Policy IID p.18)

Current details of Stores management: Frimley Park Hospital

Scope of service (for planning policy see No 1.2 (1) above

Frimley Park Hospital is located within the boundaries of what is now called the West Surrey/North East Hants Health District which is one of six Districts of the Surrey Area Health Authority. Within the District, the hospital Store at Frimley Park is one of three Stores serving the total needs of the District (see fig. 6). In a sense it can be seen as forming part of a District Store, as it holds a certain range of goods not held by the other stores (that is, not held by the other stores for District distribution though they hold some of the commodities for their own Units). Both the other Stores are on hospital sites; one at Farnham, a hospital mainly for long-stay patients, and one at Brookwood, a hospital for the mentally ill.

The division of commodities between the three stores is dependent partly on the specialty of the hospital (reflecting the major demands of the hospital) and partly on other criteria, such as space. Thus Frimley Park Store holds medical and surgical sundries because the main operating theatres and treatment facilities for the District are there; it holds stationery because it is the hospital which places the greatest demand on this commodity; while it holds cleaning materials simply to use space effectively between the three stores.

The difference between this arrangement and that anticipated during the planning stages is difficult to judge in terms of the impact it has on space allocated for the Hospital Stores. While Frimley Park now supplies a greater number of facilities (community services as well as those hospitals constituting the original group) it does not hold a complete range of commodities except where necessary for use within Frimley Park Hospital itself.

In terms of the organisation, however, the arrangement has created some differences:-

Management (for planning policy see No 1.2 (2) and (3) above)

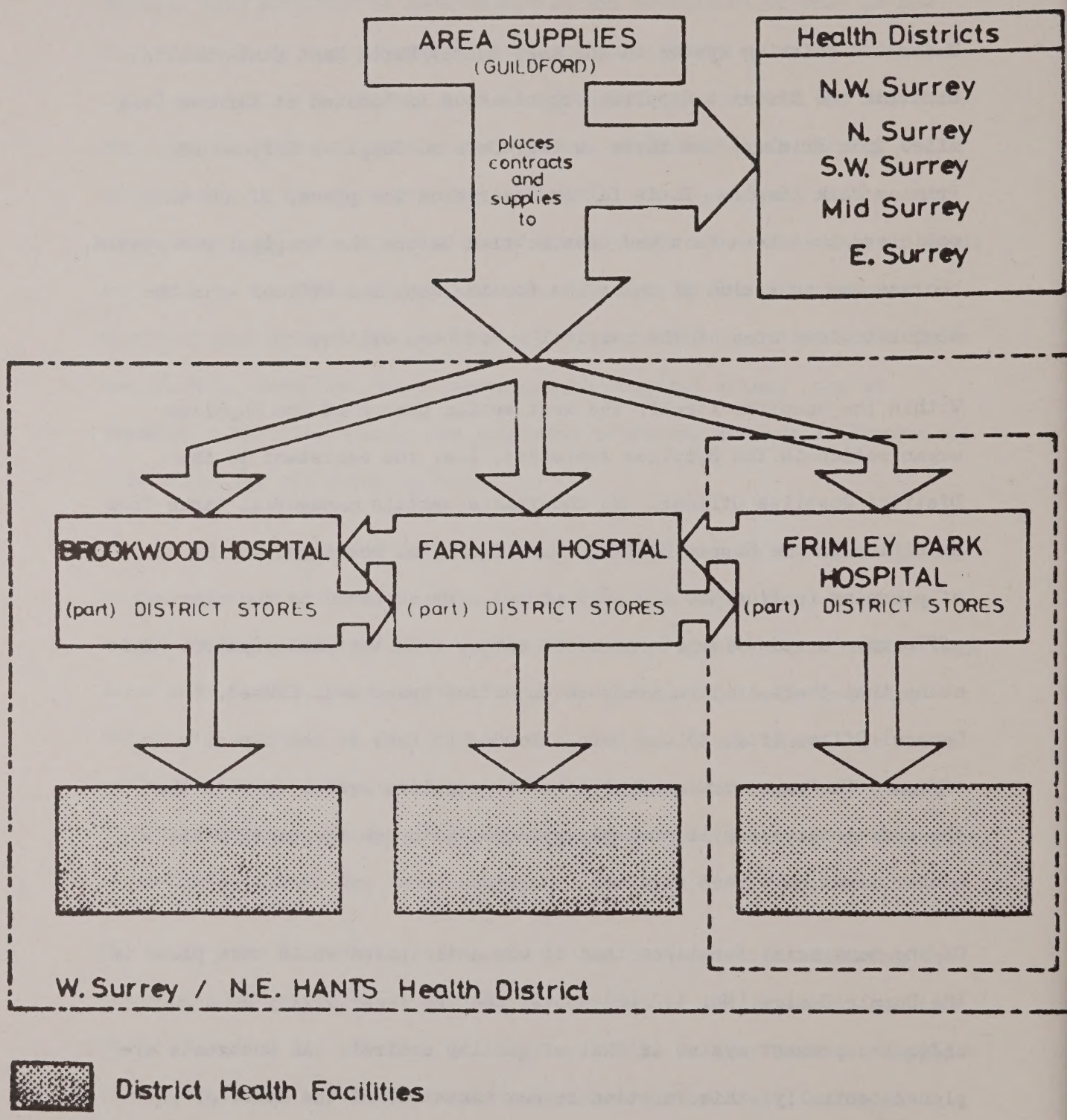
Under the existing system in the West Surrey/North East Hants Health District the District Supplies organisation is located at Farnham (six miles from Frimley) and there is therefore no Supplies Officer at Frimley Park itself. It is fairly clear from the plans, if not the policies, that this fact had been settled before the hospital was opened, because the provision of an office for the Supplies Officer - in the Administrative area of the hospital - had been omitted.

Within the hospital itself, the most senior person in the Supplies organisation is the Supplies Assistant, i.e. the assistant to the District Supplies Officer. He undertakes certain managerial tasks from an office in the Supply Centre, (see fig. 3) as envisaged at the time of planning (policy No. 1.2. (2) above). He is aided by two clerical officers; a reduction of one staff member from that anticipated. This means that there is less pressure on office space and, indeed, the General Office (fig. 3) has been extended to take in the typist's office. The paperwork generated by the supplies system is such that the additional space is probably welcome, although the extra staff member might have been more so.

Of the managerial functions that it was anticipated would take place in the Supply Centre (No. 1.2 (2) above) the one least likely to occur under the present system is that of quality control. As contracts are placed centrally, this function is now taken out of the hands of the hospital. If the Supplies Assistant received a complaint from a user he would take it up with the District Supplies Officer.

FIGURE 6

AREA SUPPLIES ORGANISATION RELATING TO FRIMLEY PARK HOSPITAL



Current methods of working have not generated a great need for samples storage. Whether this is also a result of the central arrangement of contracts is not clear because, even under this system, the hospital does receive samples. Stores staff do not understand what the planners had in mind when the Samples Store was designed. Certainly they have not been able to justify reserving this rather large space for the samples they do receive. Generally these are small items, such as dressings, which can be accommodated with ease in a cupboard in the General Office. The Samples Store at Frimley is now used as an extension of the Provisions Store, holding in the main, provisions for use in the Snack Bar.

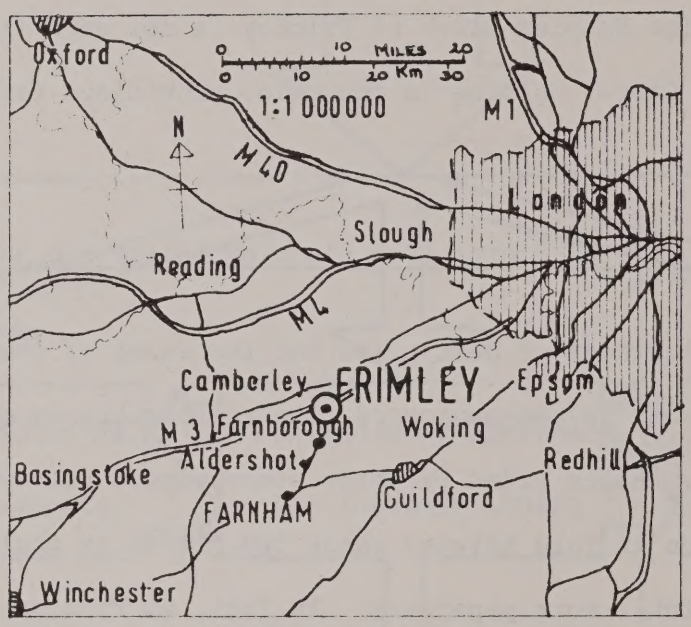
Day-to-day running of the Stores (for planning policy see No 1.2 (4) above)

The receipt and clearance of deliveries and the issue of correct items to wards and departments is, as envisaged, the responsibility of the Storekeeper Clerk. He is aided by three storekeepers and two storemen. The main difference in role between these two grades is that the Storekeeper undertakes more paperwork. In fact, at Frimley, the storekeepers take on the responsibility for issuing the less specialised commodities (e.g. cleaning materials and stationery) to wards and departments, while the Storekeeper Clerk retains the responsibility for issuing medical and surgical sundries.

The tenth member of the Stores staff is a porter. He is seconded to the Stores from the main portering pool. It is his duty to drive the tug and trailers from the Supply Centre to the main building, delivering goods to the various wards and departments. When he is away, the tug is driven either by another member of the Stores staff or a porter 'borrowed' from the 'Main Pool'.

FIGURE 6A

FRIMLEY: GEOGRAPHICAL LOCATION



There is, in fact, a much greater sharing of work-load than is implied by the official job-titles of Stores personnel: all staff, except of course the clerical officers, help with the unloading of lorries and handling of goods.

It will be noted that the full complement of staff for goods-handling is the same as that suggested in the planning policies; the difference is that job-designations have become more clearly defined.

Summary: Frimley Park Hospital

Comparison of current Stores organisation with that suggested in the Planning Policies

The Stores establishment (i.e. the number of Stores personnel) is little different from that envisaged by the planners. Day-to-day running of the Stores remains much as planned. Where the planned and current situations do differ, however, is in the devolvement of managerial functions. Although managerial functions do take place at the hospital, the main focus for the administration of the Supplies service in the District has remained at Farnham and, as the District Supplies Officer is based at Farnham, it has meant that there has been no requirement for an office within the Administration section of the hospital building.

A reduction of one clerical staff member in the Stores has resulted in alterations being made to office space and has thus eased pressure on space in this area.

The accommodation of current methods of working

In terms of the building, it is difficult to assess the impact of the altered location of District Supplies Administration. Under the present system there are two Stores, in addition to that at Frimley, serving the supply needs of the District. It may be that this has taken some of the pressure off storage space at Frimley Park, though this is by no means certain since it is likely that Frimley now supplies more health facilities than originally planned.

With current methods of working, the need for samples storage has not proved as great as envisaged. The hospital does receive some samples, thus it cannot be claimed that current contracting arrangements have done away with the need for storage space for these items. However, the samples currently received are generally not of a bulky nature.

1.3 Stores management: The West Suffolk Hospital

Planning policies for Stores management: The West Suffolk Hospital

Planning policies for the administration of the West Suffolk Stores were subject to the same lack of certainty as those for Frimley Park, again because of national changes in organisation taking place at the time. However, it was envisaged that there would be certain fundamental differences in the administrative networks at the two hospitals:-

(1) The West Suffolk Store, rather than being a Group store was itself to be serviced by a store at Fulbourn (Cambridgeshire) and, that being so,

(2) most managerial functions were to be located at Fulbourn rather than within the hospital Store.

Otherwise, policies were the same as for Frimley,

(3) A Group Supplies Officer, or someone with authority to advise on supply matters and carry out policy decisions, was to be based in the main hospital building.

(4) A Storekeeper/Clerk, located in the Reception area of the Supply Centre would undertake the day-to-day management of the Supply Centre's business (ensuring goods were received, checked and stored and that user requirements were satisfied).

As the main managerial functions were to be located elsewhere, the total complement of staff was to be

1 Storekeeper/Clerk

6 Storemen/Porters

Current details of Stores management: The West Suffolk Hospital

Scope of service (for planning policy see 1.3 (1) above)

In the event of reorganisation of the National Health Service, the Area encompassing the Bury St Edmunds Health District became centred at Ipswich, which is slightly further from the West Suffolk Hospital than Fulbourn would have been. The distance between hospital and Area Supplies was instrumental in the decision to create an outpost of the Area Supplies to serve the Bury St Edmunds Health District* and the majority of the supply needs of the West Suffolk Hospital are now met by these 'Sub Area Stores', little more than a mile away. Figure 7 illustrates the current situation.

In principle, the change of location of the Area Supplies should make little difference to the amount of space allocated to Stores within the hospital (though, in practice, the close proximity of the Sub-Area Stores may permit pressure on space in the hospital to be relieved, since transport costs between the Stores are not as high as they would be if a greater distance separated them and therefore the incentive to keep journeys to a minimum is not as great).

Management (for planning policy see 1.3 (2) and (3) above)

Differences in the structure of the Area Supplies organisations relating to Frimley Park Hospital and the West Suffolk must be understood in the context of the variations that arose following the Hunt Report. Within the Bury St Edmunds Health District there is no 'District' Store, but rather a 'Sub-Area' Store which is the base for a 'Senior Supplies Manager' of the Area organisation.

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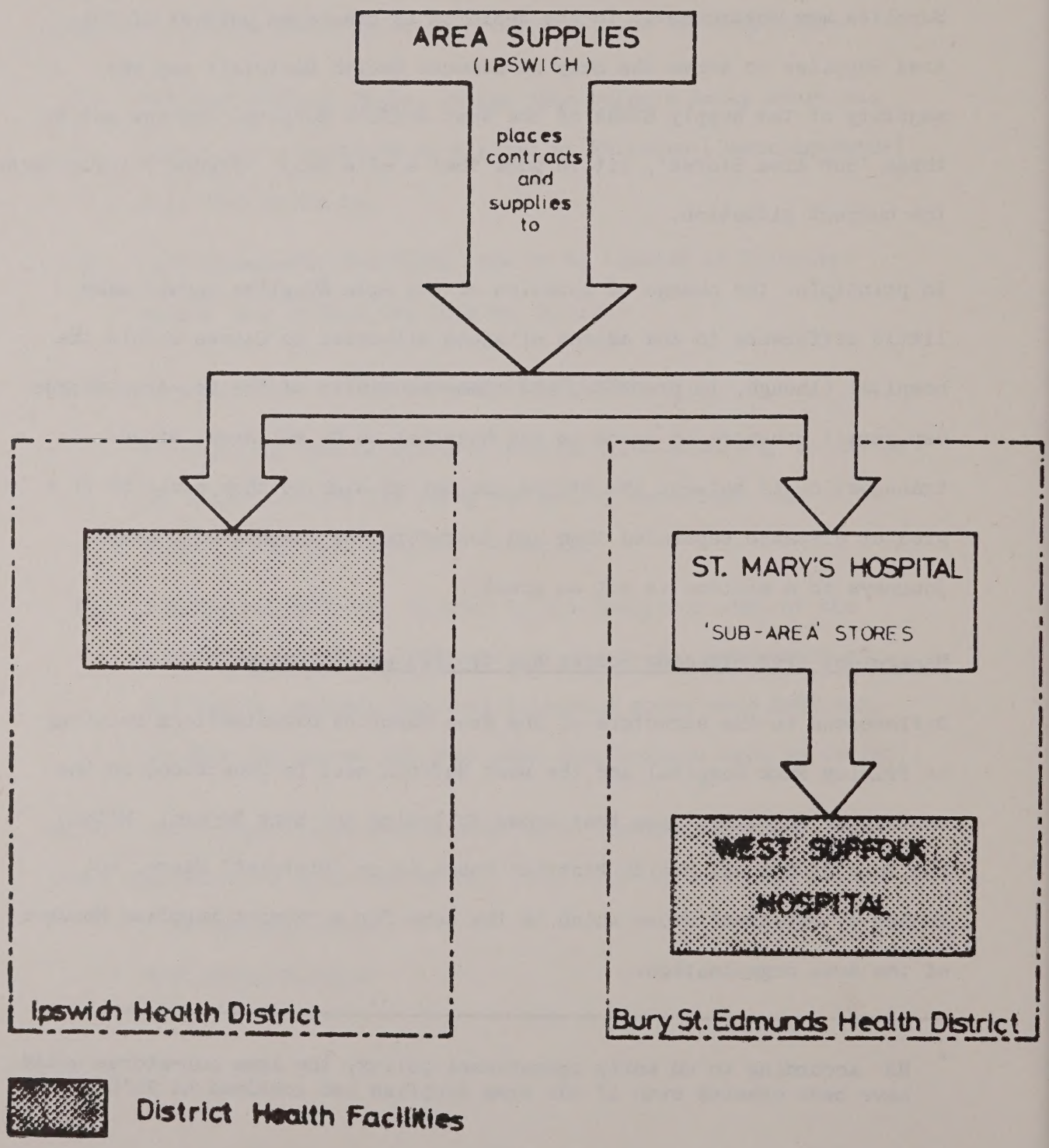
* NB According to an early operational policy, the Area sub-stores would have been created even if the Area Supplies had remained at Fulbourn.

FIGURE 7

AREA SUPPLIES ORGANISATION RELATING TO THE WEST SUFFOLK HOSPITAL



There is no Supplies Officer based at the West Suffolk itself. In this respect, the position is the same for the West Suffolk as for Frimley Park, although the latter is the base for a representative of a District Supplies service and may therefore be in a better position to influence Supplies policy at District and thence at Area levels. This is a matter of speculation, of course, but it could be important from the point of view of user satisfaction with the Supplies service.

As the managerial element of the Supplies service is not represented within the hospital, the hospital administration has taken on responsibility for supplies policy within the hospital and for day-to-day organisation of the system. Of course, the administration at Frimley also has overall responsibility for the supplies system within the hospital, but because there is a Supplies Assistant within the building, one gains the impression that there is less active involvement on the part of the hospital administration with day-to-day supplies problems.

At the West Suffolk, the involvement of Unit Administration in the operation of the hospital supplies service demands a good deal of contact between the administrators and Stores staff. The distance between the Administration and the Supply Centre is not considered to be ideal under these circumstances. Had a Supplies Officer been located in the Administration area the problems would undoubtedly have been the same.

Day-to-day running of the Stores (for planning policy see 1.3 (4) above)

Most of the managerial functions of the Supplies service (as opposed to the Hospital Stores organisation) do take place outside the hospital, albeit at a different location from that envisaged by the planners. Theoretically, the demand for office space in the Main Stores section

of the Supply Centre should be satisfied by the provisions made. In practice, however, the day-to-day running of the Stores generates a large quantity of paperwork and office files spill over into the Stores area (inset).

The office is now the base for two Storekeeper/Clerks. These two men are responsible for the day-to-day running of the Stores (one of them taking charge of the catering provisions, while the other is responsible for other commodities). For purposes of supervision they would have had direct access to the Loading Bay from their office (fig. 5) but the door is now blocked from both sides. On the office side this has resulted from the need to fit in extra furniture to accommodate a second person and a great deal of paperwork, while the Loading Bay side is cluttered with items of furniture, etc. Extra desk space has been created in the Main Stores area to accommodate some office functions.

The full complement of Stores staff is made up with four storemen. Their duties are similar to those of the storemen at Frimley, except that all act additionally as porters to distribute stores around the hospital.

There is one staff member less than was anticipated at the time of planning and job designations have changed so that there are only four storemen/porters as opposed to six.

Summary: The West Suffolk Hospital

Comparison of current Stores organisation with that suggested in the planning policies

The West Suffolk Hospital Store is serviced from an off-site store as envisaged although, to the advantage of the hospital, this Store is much closer than planned.

Despite the increase on the clerical side - two storekeeper/clerks as opposed to one - numbers of staff in the Stores are less than planned; there are four storemen/porters as opposed to six.

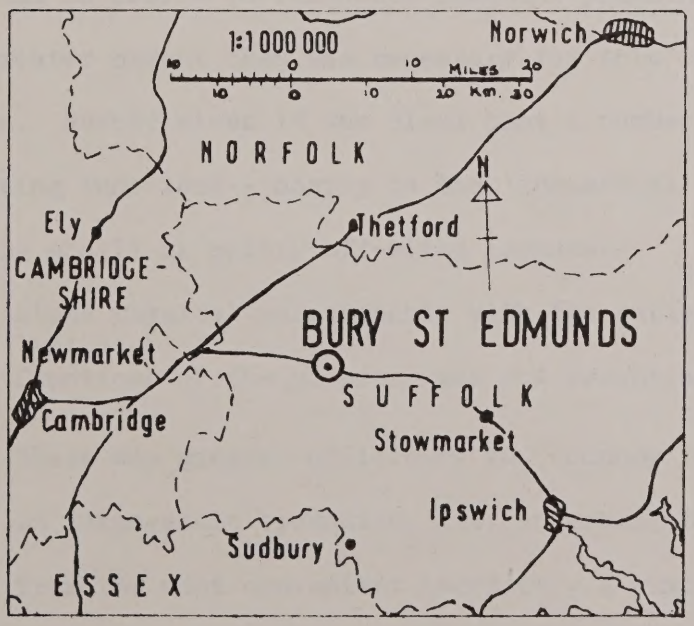
The accommodation of current methods of working

Although most of the managerial functions associated with purchasing supplies are located elsewhere, the paperwork generated by supplies functions in the hospital is heavy. It is now dealt with by two storekeeper/clerks rather than one. Office space is thus no longer adequate and office files spill over into the Stores area.

Hospital Administration are active in the organisation of the supplies service within the hospital. As this results in the need for contact with Stores staff, there is regret that the Administration area is some distance from the Supply Centre.

FIGURE 7A

BURY ST. EDMUNDS: GEOGRAPHICAL LOCATION



In the previous Section, the relation of the Hospital Stores to the wider Supplies Organisation has been mentioned. There are, however, other non-commercial facilities outside the hospitals which issue or reprocess commodities for hospital use. Thus, before discussing receipt of supplies at the Hospital Supply Centres, a section will be devoted to the 'off-site' facilities.

SECTION 2 : RELATION OF THE HOSPITALS TO OFF-SITE FACILITIES INVOLVED IN THE SUPPLY OF COMMODITIES

During the planning stages of Best Buy, the Regional Hospital Boards for Frimley and Bury St Edmunds had agreed that support facilities already functioning on other sites could be upgraded for the purpose of serving the new hospitals. Thus, for each hospital, one or two of the 'industrial' functions involved in the distribution of commodities were to be off-sited.

The decision to make use of existing facilities is discussed briefly in the planning policies,

> "Following one of the cardinal principles of their brief (the Best Buy Project Team), had carefully examined from the viewpoint of continuing usefulness all those services and facilities which were already available to the catchment area. The objective was to ensure that the on-site capital works were kept at the most rational level.
>
> There was no desire to influence regional planning policy to a greater extent than was necessary for this immediate purpose. Nevertheless it was clear that a number of supporting functions - mostly on the 'industrial' side - could be wholly or partly off-sited because:-
>
> (a) close physical relationship with the patient-care functions of the hospital was not essential; and/or
>
> (b) there was greater efficiency and economy to be found in large-scale operation, i.e. in making them serve from the most convenient location - a number of hospitals over a fairly wide area. "
>
> (Policy IA, p. 2)

The situation as it was planned and as it is now will be described in the following paragraphs.

2.1 Off-site facilities: Frimley Park Hospital

Planning policies concerning the off-sited facilities serving Frimley Park Hospital

(1) It was originally anticipated that the existing laundry at Farnham could be upgraded to cater for the needs of Frimley Park Hospital. However, future developments at nearby Guildford indicated that the construction of a new laundry would be more appropriate and it was thus decided by the RHB that a new laundry should be built on the existing site. The Best Buy planners understood that this laundry would return linen in a form ready for distribution to user departments. They envisaged that procedures for linen repair and/or condemnation, however, would be carried out at Frimley Park Hospital.

(2) A new Central Sterile Supplies Department (CSSD) was to be built at Farnham, in association with the new Laundry and on the site of an existing Area CSSD. It was planned that it should provide sterile packs in a form suitable for direct distribution to user departments.

In addition to performing the usual functions of a CSSD it was to cover the preparation of sterile fluids and other products for Pharmacy and also the washing/sterilising of babies' bottles and teats. Theatre instruments were to be sterilised by an on-site Theatre Sterile Supply Unit (TSSU).

(3) Since the Pharmacy Department at Farnham was to continue

to serve the hospital there, it was decided that it could, in association with the CSSD, perform a couple of functions for the new hospital at Frimley. These were (a) to prepare sterile products, topical fluids and surgical dressings and (b) to act as the quality control laboratory. Management of the Pharmacy was to be the responsibility of the Chief Pharmacist at Frimley.

(4) Transport headquarters were to remain at Farnham. Frimley would have a subsidiary allocation of vehicles but no garage accommodation was planned for the new hospital.

(Planning Policies IB & IID)

The current situation of off-sited facilities serving Frimley Park Hospital

Laundry (for policy see 2.1 (1) above)

As planned, a new Laundry has been built on the site at Farnham. It was opened in 1973 and, following reorganisation of the National Health Service, serves two Health Districts (which correspond fairly closely with the area it was serving originally).

The form of service provided has remained the same as that used in the old Laundry: bulk delivery to a central point in a hospital rather than departmental or ward issue. In this respect, then, reality differs from policy and the effect on space allocated for linen-handling in the Supply Centre at Frimley Park Hospital has been quite dramatic (see Section 3).

Again in contrast to the policy, procedures for linen repair are carried out at the off-site Laundry rather than at Frimley. This is because bed-linen, towels, etc. are not allocated to an individual

hospital but form a District Pool. However, this has not meant that the sewing facility at Frimley has become redundant since there is a need for uniform manufacture and for upkeep of those items of linen (e.g. curtains) which are the property of the hospital. But in concert with the changed linen-handling area, the sewing facility is no longer as originally designed (see figs. 2 and 3).

Since linen forms a District Pool, the condemning of irrepairable items takes place at Farnham rather than at Frimley and the responsibility for this rests with the Linen Services Manager (acting on behalf of the Operations Manager for the District). New linen is requisitioned from District Supplies at Farnham. This is also a departure from the planned policy since it was envisaged that the base for the Supplies Officer would be at Frimley Park Hospital. Details of the District Supplies Organisation are discussed in the previous Section.

Central Sterile Supply Department (for policy see 2.1 (2) above)

The CSSD is located, as planned, in the new building which houses the Laundry. It supplies the same two Health Districts, using a method of distribution which fits in well with the policy of direct issue to wards and departments devised for Frimley Park Hospital. The system is operated on the basis of a 'one-for-one' exchange; a new sterile pack being issued to a ward on receipt of a ticket from a used pack. The system is described more fully on page 108.

Sterile fluids are not prepared in the CSSD as envisaged. They are, however, prepared on the Farnham site so there has been no necessity to create facilities for this purpose at Frimley Park Hospital.

The additional function of sterilising babies' bottles and teats is, as suggested in the planning policies, undertaken by the CSSD.

As planned, the on-site TSSU at Frimley undertakes the sterilisation of theatre instruments. The CSSD supplies them with all their gown packs, a special type of bandage pack and additionally checks and folds all the patient drapes for the theatre trays made up in TSSU.

Pharmacy (for policy see 2.1 (3) above)

The Pharmacy at Farnham does undertake a number of functions for the District General Hospital, though independently of the CSSD.

The sterile products manufactured at Farnham include

- irrigation fluids
- antiseptics
- some lotions
- waters

while the non-sterile include

- antiseptics
- disinfectants
- a few external products
- a few internal products

Additionally, the Farnham Pharmacy undertakes the packaging of commercially purchased goods. The supply of sterile surgical dressings is undertaken by CSSD rather than by Pharmacy.*

With the extent of manufacture undertaken at Farnham there is no necessity for manufacturing to take place at Frimley, though planning policies stated that manufacture of drugs and chemicals (as well as

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* The planning policy for 'Pharmacy Department organisation' (IID, p. 21) indicates, in fact, that the CSSD should be responsible for the supply of surgical dressings: it is the 'off-sited' policies that mention the Pharmacy in this connection.

bulk storage and breakdown) could take place in the Supply Centre. On the other hand, it is not apparent from the plans that the space in the Frimley Supply Centre allocated for Pharmacy would accommodate anything other than storage and it may be that the policy was out-of-date before the design was finalised. Whatever the true order of events, the Pharmacy at Frimley is even now pressed for space and would certainly have encountered difficulties had it been necessary to bring the manufacturing function on site.

The function of quality control is not undertaken by Farnham. Indeed there is no facility at all for this within the District and the District Pharmaceutical Officer presently uses a service provided by the Region, for which no charge is made. Generally speaking, it is only the specially manufactured goods which need testing, since commercial goods are bought against contracts arranged at Region or Area and have thus already received approval. There are some special purchasing agreements at District level which are dealt with by the District Pharmaceutical Officer.

Management of the Farnham Pharmacy has, as envisaged, remained in the hands of the Chief Pharmacist (now known as the District Pharmaceutical Officer) who is based at Frimley Park Hospital. There is one other major hospital within the District which contains a Pharmacy and the District Pharmaceutical Officer manages the three pharmaceutical services, as far as possible, as though they constituted one department.

Transport (for policy see 2.1 (4) above)

The current situation of transport services for the District follows fairly closely that anticipated by the planners of Best Buy. The Transport headquarters have remained at Farnham, where a centralised service is operated. Indeed, rationalisation of the service has

negated the need to provide Frimley with a subsidiary allocation of vehicles for the distribution of stores, particularly as Frimley is now only one of three Stores serving the District, and transportation can be managed on a 'circular' basis starting from the Farnham Stores, which is the headquarters of the District Supplies Organisation.

Neither the manager of the Laundry nor of the CSSD felt it inconvenient that the individual services do not have their own vehicles. Deliveries from Farnham to Frimley are not restricted to scheduled runs for each commodity; if necessary the Transport Officer will accommodate small loads on vans scheduled for other types of run. Furthermore, sterile supplies for Frimley would not, in themselves, constitute a full van load, so that it would be wasteful to transport them by themselves. However, the point was frequently made that a service is only as good as its management. So, while the District users are highly satisfied with the centralised transport service operated from Farnham, it would, perhaps, be wrong to assume that such services are always the most efficient.

Stores

Stores management has been dealt with in detail in Section 1. However, no discussion of off-site facilities is complete without reiterating that it is Farnham, rather than Frimley, which has become the central focus of the District Supplies Organisation and that the Farnham Store holds a number of commodities for distribution via the Frimley Stores to user departments in the hospital.

Summary and conclusions: Frimley Park Hospital

Comparison of the current situation of off-site facilities with that described in the planning policies.

Basically, the situation of off-site services for Frimley Park is much as envisaged by the Best Buy planners, with the major exception of Stores provision. There are, however, certain differences, notably in the style of supply from the Laundry and in the detailed provision of goods supplied by the CSSD and Pharmacy.

The accommodation of current methods of working

The style of supply from the Laundry is crucial in terms of the impact it has at hospital level. This is because the difference between receiving goods ready for distribution to wards and receiving them in bulk, to be broken down at hospital level, is quite significant in terms of space requirement (the actual effect at Frimley is discussed on p.44). Undoubtedly designers are aware of this, but the important factor for this study is that it enables us to see the type of policy decision which impinges on the building itself rather than on less tangible matters such as organisational efficiency.

Local comment on the principle of off-siting

Although the location of CSSD and Laundry has remained as planned, the fact that these facilities are off-sited is not without its critics in the District.

In terms of the planning of Best Buy, it was the existence of the Industrial site at Farnham that determined that there should be no Laundry or CSSD on-site at Frimley. However, it is argued at District level that, because of transport costs, there is a case for developing centralised services at the area of most activity. The 'area of most activity' will generally be the DGH. Certainly the service provided for Frimley Park is estimated to represent two thirds of the workload of the CSSD and one third of the workload of the Laundry. It is recognised that, serving two Health Districts, the centralised Laundry and CSSD also supplies another DGH at Guildford and that this places a further dimension on the argument concerning the most appropriate site for their location. Nevertheless it is felt, within the District, that on-siting of the facilities at Frimley would have been preferable not only from the point of view of cost but also from the point of view of controlling some of the problems encountered in the supply of linen.

2.2 Off-site facilities: The West Suffolk Hospital

Planning policies concerning the off-sited facilities serving the West Suffolk Hospital

(1) An existing Laundry at St Mary's Hospital was to be upgraded to handle the net extra load generated by the new District General Hospital. Like the Farnham Laundry, it was envisaged that this would return clean linen in a form ready for direct distribution to user departments. The responsibility for linen repair and condemnation was expected to remain at St Mary's and thus the West Suffolk Hospital was provided with only a small Sewing Room for purposes of uniform alteration, etc.

(2) A new CSSD was to be built at St Mary's hospital to replace a much smaller department already in existence. This was not the preferred choice of the then 'Regional Board', who were actually wanting to provide a sub-regional service from some other location, to fit in with their long-term plans. However, it was the solution finally accepted because of difficulties over timing the developments. The new CSSD was therefore to provide a temporary service within the area and was eventually to be superseded by sub-regional provision. During the planning stages of Best Buy it was envisaged that the service would be one of direct supply to user department rather than bulk supply to hospital.

Like the Farnham CSSD it was envisaged that, in addition to performing the usual functions, it was to cover the production of sterile fluids for Pharmacy.

Theatre instruments were to be sterilised by an on-site TSSU.

(3) Since it was felt that bulk storage and manufacture of pharmaceuticals could be accommodated more cheaply outside the new hospital, it was decided to make use of existing facilities at Newmarket Hospital. This off-site Pharmacy was to undertake bulk storage and handling, manufacturing and pre-packing, sterilising of products and quality control.

(4) An Area Stores was to be based at Fulbourn.

This has already been discussed in detail on p.22 and will thus only be mentioned briefly in this Section.

(5) It was felt that the most logical site for the Transport headquarters would be at Fulbourn where it could be associated with the central Stores. Newmarket would also be able to make use of this service, while the Laundry and CSSD would require some subsidiary transport provision (the nucleus of which already existed). Since St Mary's is close to the site of the new hospital it was not considered necessary that the latter should have its own vehicle allocation.

(Planning Policy IA)

The current situation of off-sited facilities serving the West Suffolk Hospital

Laundry (for policy see 2.2 (1) above)

The existing Laundry at St Mary's was extended in 1973. It serves

11 facilities in and around the Bury St Edmunds Health District (including nurses' homes, health centres and cottage hospitals). Only two of these facilities are provided with linen ready for direct distribution to users; the West Suffolk is one of them. In fact the Laundry provides a very special service for the West Suffolk by organising an exchange-trolley system for the wards. That is, the Laundry receives linen storage trolleys for topping-up and re-issue so that the task does not have to be undertaken on-site at the District General Hospital.

In a sense, then, the service operated corresponds with that planned, but the system is not ideal both because the trolleys get damaged in transit and because the bulkiness of the trolleys increases the number of journeys it is necessary to make between the two hospitals. Indeed, the Laundry would prefer to operate a bulk service but, even with the alterations made at the Supply Centre of the District General Hospital (see p.44 for discussion) staff consider that there is insufficient space for the amount of linen-handling that this would necessitate.

Repair of items of linen from the District Pool takes place at St Mary's, where responsibility for condemning irrepairable items is centralised. The Sewing Room at the West Suffolk is responsible for repairing items of linen owned by the hospital and for uniform alterations and repairs.

With the alterations to the Supply Centre at the West Suffolk Hospital, the allocation of space for sewing became a little greater (see fig. 5). However, this space was taken over for storing a 'buffer' stock of linen. Thus the Sewing Room has now been re-located in a vacated space which formed part of the old Staff Changing Rooms in the main building.

CSSD (for policy see 2.2 (2) above)

A new CSSD was built in 1971. Despite the new boundaries created by reorganisation of the National Health Service it continues to provide a service to some hospitals in Cambridge, which now come under another AHA, as well as serving hospitals and community facilities within its own Health District.

Where the current situation differs from the one envisaged is in the mode of delivery of sterile packs to the hospital. Currently, the CSSD supplies in bulk to the hospital rather than in a form suitable for direct delivery to wards and departments. However, the receipt of sterile supplies in bulk seems to be a tradition carried from the old hospital site to the new, rather than a policy imposed by CSSD. Whatever its origins it has meant that a bulk sterile supplies store has had to be created within the Supply Centre at the West Suffolk Hospital (see fig. 5).

The present manager of CSSD would prefer to see a 'closed loop' (i.e. direct to and from ward or department) system in operation, which would enable a closer check to be kept on the use of instruments within the system, but it is recognised that such a system would necessitate extra staff at the CSSD.

The preparation of sterile fluids is no longer undertaken by the CSSD; it is now a function of the Area Pharmacy at Ipswich. However, CSSD still stores and distributes these fluids, thus the departure from planned policy is not complete.

There is, as planned, a TSSU operating on-site at the West Suffolk. The CSSD supplies this unit with theatre gowns and with some 'soft' packs for their tray sets.

Pharmacy (for policy see 2.2 (3) above)

Reorganisation of the National Health Service, as already mentioned, created, for Bury St Edmunds, an Area organisation based on Ipswich. Thus, in the same way that the Central Store for the West Suffolk is not located at Fulbourn, neither is the 'area' Pharmacy located at Newmarket.

The current situation is that the West Suffolk Pharmacy has a bulk store off-sited at St Mary's and that most manufacturing is undertaken at Ipswich.

The siting of the bulk store is not ideal. The hospital staff establishment is insufficient to provide a full-time Storekeeper and the Pharmacy Storekeeper/Clerk has to spend the morning at the hospital writing up orders and the afternoon at St Mary's receiving goods. Any pharmaceuticals which arrive when the clerk is not there have to be accepted by the Supplies staff. There are obvious disadvantages to this in respect of checking orders. Furthermore, the practice is questionable from the point of view of security, since the Supplies staff are not permitted to have a key to the Store itself (for reasons of security) and must leave goods in a lobby, albeit a lockable one.

Another disadvantage of off-siting the bulk store, where there is so little storage space for pharmaceuticals within the hospital itself, is the delay it creates in meeting patients' prescriptions. As the Pharmaceutical Officer commented, this is an unnecessary 24-hour delay (because of the pattern of delivery between Pharmacy Store and hospital) which may mean that the hospital has to meet the added expense of posting items to patients who have been discharged.

However, the future is promising as the West Suffolk Pharmacy has

demonstrated the need for an on-site Store and plans now exist to create such a store close to the present Supply Centre.

Stores (for policy see 2.2 (4) above)

There is an off-site Store serving the West Suffolk Hospital, though neither its location nor its organisation are quite as envisaged (see discussion, p. 23).

Perhaps the most important departure from planned policy is the fact that the present Area and Sub Area Stores are not responsible for bulk breakdown of commodities to the same extent as the planned Fulbourn Store might have been. Thus this function is, where necessary, carried out in the West Suffolk Stores, where space to do so was not allocated. The situation is similar to the one affecting linen-handling at Frimley Park Hospital, although it has not resulted in alterations to the building.

Transport (for policy see 2.2 (5) above)

Now that the off-sited District services are all centred on St Mary's Hospital, the Transport section there has become of major importance. However, the transport service has not become centralised in the same way that it has at Farnham. Both CSSD and Laundry have their own allocation of vehicles.

CSSD have two vans (of the type shown on p.90) while the Laundry has one large van which accommodates nine of the ward linen trolleys at one time, and two vans which are partitioned so that bags of clean linen can be carried on one side while bags of dirty linen are carried on the other.

The West Suffolk Hospital has, as planned, no allocation of vans for

goods delivery, though it does have an allocation for passenger transport.

Summary and conclusions: The West Suffolk Hospital

Comparison of the current situation of off-site facilities with that described in the planning policies.

Two of the off-sited facilities (Stores and Pharmacy) serving the West Suffolk Hospital have been developed in locations quite different from those originally planned. This has come about mainly as a result of reorganisation within the National Health Service.

The accommodation of current methods of working

Just as at Frimley, divergences from planned policies with respect to the form in which goods are delivered from off-site facilities have created demand for additional space in the Supply Centre of the Best Buy Hospital. In this case, the facility involved is CSSD. The form in which the Sub-Area Stores generally delivers goods - and the amount of direct-from-supplier delivery - may also affect the use of space in the hospital Stores, since the need for bulk breakdown is increased.

The manager of the one facility that does provide a direct-to-user service, that is the Laundry, feels that a bulk service to the hospital would be preferable, in order to eliminate the costly conveyance of linen trolleys back and forth. He accepts that this would create a need for more space within the hospital itself.

Local comment on the principle of off-siting

Again there is some feeling within the District that off-siting was not the best policy. The Laundry manager, for example, would like to see the Laundry on-sited to cut down on transport costs and to ensure that the hospital could have access to additional supplies of linen at the weekend, if necessary. The West Suffolk's linen constitutes about 50% of the Laundry's workload. If we accept the idea of siting facilities in the area of most activity, then the CSSD should also be on-sited since sterile supplies for the West Suffolk constitute 42% of their workload.

SECTION 3 : RECEIPT OF GOODS AND USE OF THE MAIN STORAGE AREAS WITHIN THE HOSPITAL

3.1 The receipt of supplies at the hospitals

There was an assumption in the planning and design of Best Buy, though not made explicit in the policies, that the Stores organisation (which has been the subject of discussion in Section 1) would receive all goods delivered to the hospital, with one or two minor exceptions. The evidence for this is that the original designs of the Supply Centres, at both Frimley Park and the West Suffolk (see figs. 2 and 4) have only one Loading Bay which is adjacent to the main Stores area. It would not have been necessary to receive building and engineering maintenance materials here, however, since the design of the Supply Centres does incorporate direct access to the Works Department Store and, indeed, the policies mention that the Works Department Storekeeper is entirely responsible for ordering these materials. (Policy IIC, p. 10)

Since the opening of the hospitals, the responsibility for receiving two fairly major items of supply (laundered linen and sterile packs) has been taken out of the hands of the Stores organisation. This has come about at both hospitals as a result of alterations made to the Supply Centres. The alterations were made because insufficient area had been allocated for linen-handling and because the original layout made it necessary to carry dirty returns for CSSD and Laundry back through the delivery area. The extensions incorporate Loading Bays (figs. 3 and 5) to which all deliveries from Laundry and CSSD are made. Handling of these goods at the point of delivery is now dealt with by the hospital portering services and, in the case of linen, by linen room staff.

2 Frimley Park Hospital: Receipt of goods at Loading Bay A

Apart from the major exceptions mentioned above (Works department materials, laundry and sterile supplies) the Stores organisation does receive most other commodities delivered to the hospital, though not gas cylinders which are also now delivered at the Laundry Bay (Loading Bay B on fig. 3) and items, such as chemical kits for the Pathology Department, which tend to be taken by delivery men via the hospital main entrance to the department from whence the order was issued.

It is the responsibility of the Stores organisation to check in (i.e. to check against orders) goods received at Loading Bay A, with the exception of pharmaceuticals, which are checked in by the Pharmacy Storekeeper, and perishable provisions which should be checked in by the catering staff. This latter is a problem which was not envisaged by the planners. Planning Policy IIE suggests that all perishable foods could be taken straight from the Bay to the kitchen. However, this is not a very satisfactory arrangement since there is no-one amongst the Stores staff who is in a position to assess the quality of the food, and once it has been accepted, the complexities of sending it back become greater. Thus, when perishable foods (meat, in particular) arrive, the Stores staff are theoretically intended to send for a chef from the kitchen. This is time-consuming and sometimes impractical, so predictably it is not always achieved. The Catering Officer commented that suppliers are aware of this and he feels that some are not averse to taking advantage of the situation by supplying inferior quality provisions to the hospital.

Deliveries to Loading Bay A are received at any time between 8.00 to 4.00 Monday to Friday and 8.00 to 10.00 on Saturday morning. Fish, however, is delivered at 4.00 a.m., well before the Store is staffed.

This has caused a problem, especially in summer! Now, however, the supplier places it in a polythene trolley which is wheeled up to the kitchen as soon as Stores staff arrive.

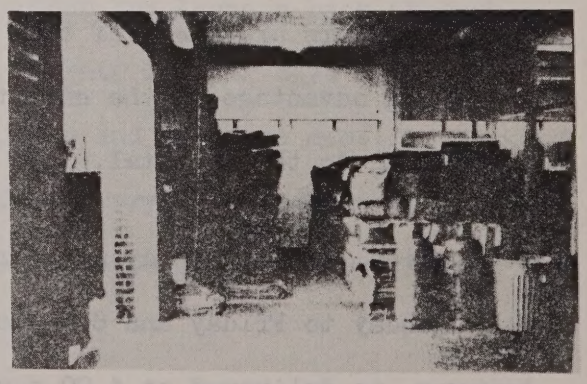
Another early morning delivery which caused problems was bread. At one time the squirrels were making a meal of this while it sat unattended on the Loading Bay. Now the hospital has persuaded the Bakery to deliver after 8.00 a.m.

These points are mentioned because, though they are not major calamities, the possibility of early deliveries is obviously a detail which has been overlooked in planning for the receipt of goods.

Discussion of the design of Loading Bay A

During poor weather the shutters for the Loading Bay have to remain closed between deliveries both because the canopy does not extend far enough to protect the Bay from rain and because it becomes very cold in the Stores when they are open. Until recently there was no means by which a delivery man arriving at the Loading Bay could summon help (unless he could walk into the Stores, which he might do if the shutters were open). Now a bell has been provided for this purpose.

When a van or lorry arrives, one of the Stores staff goes out to see (a) if it is necessary to open the shutters in order to receive the goods and (b) if there is any necessity to call on extra staff to assist with the unloading.



The mechanism for raising and lowering the shutters (inset) is not at all popular. The shutters are heavy and

the chain that operates them chafes the hands. Furthermore, it is a fairly slow job to open them - and this for a process which has to be carried out between 15 and 20 times per day.

Opinion gained from interview suggests that the Loading Bay is suitably designed for the type of vehicles using it, though damage to the building fabric above the Bay indicates that the overall height of some lorries might be a problem. The major criticism is that the Bay itself is simply not big enough. However, if the Stores were big enough to take some of the goods which are currently stacked on the Loading Dock (inset), then the space might not be so congested.

Stores accessed by Loading Bay A: Frimley Park Hospital

Once inside the building via Loading Bay A, some items go directly into storage while others are passed straight to departments.

The Main Store holds

medical and surgical sundries (catheters, needles, sutures, syringes, surgeons' gloves, etc.)

dressings

disposable bed-pans, urinals, sputum pots etc.

stationery

hardware (tumblers, jugs, glass vases)

cleaning materials

light bulbs and fluorescent tubes

also some dry provisions which are overspill from the main Provision Store.

The Provisions Store in the Supply Centre holds

dry, frozen and tinned goods.

Perishable goods are taken direct to the Kitchen. This is much as envisaged (Policy IIE). There is an overspill of dry provisions into

the Main Stores area.

The Pharmacy Store in the Supply Centre holds

all pharmaceuticals delivered at the Loading Bay.

Other items delivered to the Loading Bay are forwarded direct to the appropriate department. These would include:

occupational therapy materials

books for the Education Department

furniture

X-ray film and chemicals.

MAIN STORE

Amount of stock held

In line with the Best Buy concept of economy, the Main Store was to be adequate for day-to-day stockholding. But, in order that departments could be supplied sufficient to cover holiday weekends, it was decided that this store (as well as others in the Supply Centre) should be sized for a maximum holding of 4-5 days supply. There is no evidence, in the planning policies, that the maximum holding figure was revised for the Frimley Store when it was known that it was to be a Group store. However, since it was envisaged that the store would be receiving goods in bulk, it is possible that the designers made it larger in terms of the number of days' supply it could hold as well as larger in terms of the amount it would have to hold for the expanded service it was to provide. But, whatever the thinking at the time of design, the Store at Frimley does hold considerably more than 4-5 days' supply of most commodities.

In practice, the Stores staff at Frimley find the concept of a number of days' supply difficult to deal with because of fluctuations in the demand for a commodity. Indeed they have rejected the National Coal

Board system of ordering (the NCB has been advising the DHSS on matters of supply) which assesses supply on the basis of an average weekly demand, precisely because the 'average' rarely corresponds with the reality.

Few suppliers are prepared to deliver small quantities of a commodity to the hospital without imposing some additional charge and it would certainly be unusual for them to 'split' a standard quantity. Thus, if a particular item is boxed in lots of one gross, then one gross is the minimum that the hospital can reasonably order.

Under these circumstances, the assessment of minimum stock requirement is made in the following way:-

For each commodity there is an order record and a stock record (fig. 8). The column marked 'Bal', i.e. balance, on the stock record is up-dated as soon as possible after each issue to wards and departments, thus the clerical officer can look at the current balance figure, then scan up the column to find a figure which is approximately double the latest figure in order to work out how many weeks or months that quantity has lasted. Knowing, then, how quickly the commodity seems to be 'turning over', a number of factors have to be taken into account (e.g. the length of time it takes for a firm to deliver) before the clerical officer can determine whether to re-order immediately or whether the hospital has sufficient stocks of the commodity for the time being. An example presented was the following:-

After the last issue of Plaster of Paris bandages to departments, the stock balance was 90. Further up the 'Bal' column, the figure 144 was closest, since the last

delivery, to double the current balance. That was two weeks previously, thus 54 bandages had been issued in two weeks. On that basis the clerical officer could be reasonably certain that the 90 would last for at least two weeks longer, though they might not last for a month. Knowing that the firm takes two weeks to deliver, it was obviously time to place a new order.*

NB The Frimley Store would always aim to keep at least two weeks' supply of all those items regularly used on wards and departments since regular deliveries to the users are made on a two-weekly basis (see Section 5).

In the example above, there were three to four weeks' supply of the commodity in stock, though, as the Supplies staff stressed, a sudden run on the item (or the opposite - i.e. a reduction in use) could make nonsense of the concept.

Thus, amounts of various items held in stock vary according to the quantity in which they are supplied and the reliability of the firm, as well as the rate at which they are used. Stock levels may also vary according to the time of year, since there are anxieties that suppliers delivering from a distance may encounter problems in making deliveries during periods of severe weather.

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* Such a system of recording has to be operated despite the fact that all figures are fed into a computer at Region. The computing function is mainly for use by the Finance Department, but it does seem unfortunate that the computer read-out is not received in sufficient time to make it of value to Stores staff.

FIGURE 8

STYLE No. | DESCRIPTION

ORDER RECORD

ETAILS	ORDER UNIT		MAX			
			MIN.			

SOURCES OF SUPPLY

4

5

6

DATE	SUP.	REF.	QUAN ORD.	PRICE	DEL. & BAL.	DEL. & BAL.	DEL & BAL.	DATE	SUP.	REF.	QUAN. ORD.	PRICE	DEL. & BAL.	DEL. & BAL.	DEL BAL

RONEODEX CARD No. ST.100

STYLE No. DESCRIPTION

STOCK RECORD

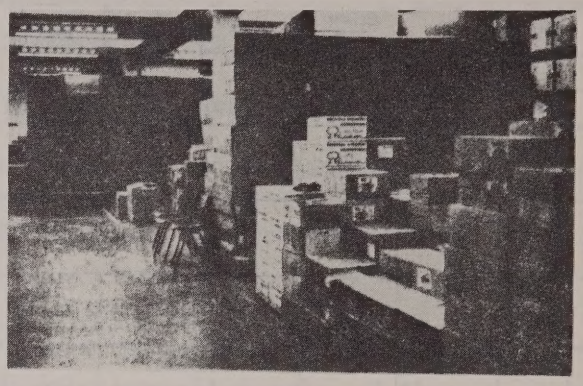
DATE	REF.	REC'D	ISSUED	BAL.	DATE	REF.	REC'D	ISSUED	BAL.	DATE	REF.	REC'D	ISSUED	BA

Commence typing here

In order that the Titles be VISIBLE they must be typed between the perforation and the light horizontal line which is ½" above it—as close to the perforation as possible. After typing front and back, tear off perforated strip.

Demands on space in the Main Store

Pressure on storage space within the Main Store is high. It has already been noted that there is some overspill onto the Loading Dock. In addition to that, items on shelves reach almost to the ceiling (see photograph below), although perhaps the major strain on space is created by the fact that the Provisions Store is grossly inadequate for current patterns of use and thus a great deal of floor space in the Main Store is taken up by catering boxes (adjacent photograph).



The amount of storage space in the Main Store has been increased a little by the addition of racking, which is placed in front of the shutters which separate the Store from the area leading to the ramps (fig. 3). This space was taken over because it was impractical to use these shutters for the purpose for which they were presumably intended. Although this is not detailed in the planning policies, it seems apparent that the shutters exist to enable the Stores staff to pass items through for loading onto the trailers waiting outside. However, the staff rejected this idea as it would involve extra handling. Currently, items are sorted and placed straight on trailers which enter the main doors of the Store. The shutters might have been more useful had they extended to the floor, but the existence of a low wall makes it impossible for a person to pass from Store to Distribution area carrying supplies. In addition to closing off the shutters, the door

closest to the ramp has also been locked. Again, the space in front of this is used for storage. It was felt that, for reasons of security, it was preferable to have only one door through which visitors to the Stores could enter.

In order to reach the offices, hospital staff and visitors must traverse the length of the Main Store. Office location is therefore felt to be unsatisfactory from the point of view of security and supervision.

PROVISIONS STORE

Demands on space

The concept of four to five days' stock-holding applied to the Supply Centre generally, so we must assume that this was the original intention for the Provisions Store, although it is possible that the sizing was revised for Frimley when it was thought that Frimley would be serving a group of hospitals. In the final event, Frimley holds provisionsonly for consumption within the District General Hospital.

Currently it is assessed that the Provisions Store holds a stock of one week to ten days' supply of dry goods - which are ordered by the Hospital Catering Manager against a contract - while there might be a stock of two to four weeks' of tinned goods - which are bought centrally, on a monthly basis, by District Supplies at Farnham.

As noted previously, provisions storage has spilled over into the Main Store. Of course, the hospital is holding greater quantities of provisions than originally intended, but it has been found impractical to hold less. Even now, the Supplies personnel and Catering Manager would argue that greater economies could be achieved if there was

sufficient space to make bulk-buying feasible.

Food storage in the Kitchen

Some food storage was grouped with food preparation in the main kitchen on the first floor (fig. 9). Again this space is under considerable pressure.

At the time of the study, the stores in the kitchen were organised as follows:

The 'Day-to-Day' Store contained:

frozen fish } in six chest-type fridges
frozen savoury goods etc.

tinned foods (fruit, beans, etc.) on wooden racking.

The Cold Meat Store contained:

meat

frozen vegetables

The Kitchen Cold Room contained:

milk

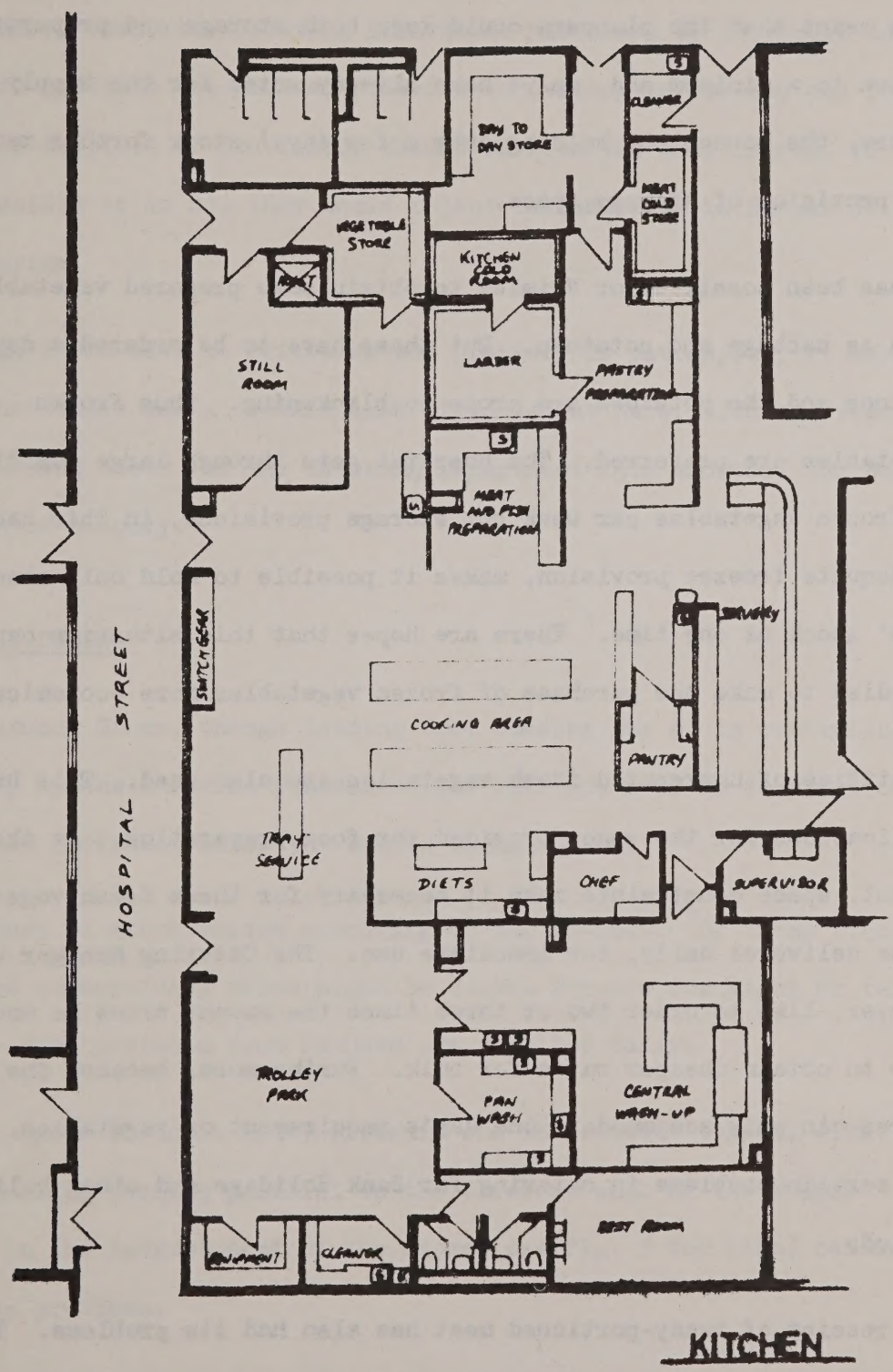
milk products

bread

The Vegetable Store was used, as designated, for vegetables. In addition, the Pantry had become a store for items used in the Restaurant e.g. cases of Pepsi-Cola, and the Passage leading to the Vegetable Store was closed off in order that the space could be used for the storage of commodities such as Ovaltine, tea bags, sugar, cornflakes, etc.

Other commodities were stored where space allowed; for example, the passage running from Hospital Street to Pastry Preparation Area contained bins for pasta, rice, etc., while bins for custard mix, milk

FIGURE 9


HOSPITAL STREET
DRY TO DRY STORE
CLEANER
MEAT COLD STORE
VEGETABLE STORE
KITCHEN COLD ROOM
ROOT
STILL ROOM
LARDER
PASTRY PREPARATION
MEAT AND FISH PREPARATION
SWITCHGEAR
SERVERY
COOKING AREA
PANTRY
TRAY SERVICE
DIETS
CHEF
SUPERVISOR
TROLLEY PARK
PAN WASH
CENTRAL WASH-UP
REST ROOM
EQUIPMENT
CLEANER
KITCHEN

powder and sugar were located in the Pastry Preparation area itself. Boxes of soups and cereals were stacked up in the Still Room.

The kitchen was designed as a 'convenience' kitchen i.e. it was to receive most of its provisions in a form ready for cooking or serving. This meant that the planners could keep both storage and preparation spaces to a minimum and, as we have already noted for the Supply Centre, the concept of holding only a few days' stock further reduced the provision of storage space.

It has been possible for Frimley to obtain some prepared vegetables, such as cabbage and potatoes. But these have to be ordered a day in advance and the potatoes are prone to blackening. Thus frozen vegetables are preferred. The hospital gets through large quantities of frozen vegetables per week but storage provisions, in this case inadequate freezer provision, makes it possible to hold only about two days' stock at one time. There are hopes that this situation can be remedied to make the purchase of frozen vegetables more economical.

Quantities of unprepared fresh vegetables are also used. This has implications for the space provided for food preparation. At the moment, space constraints make it necessary for these fresh vegetables to be delivered daily, for immediate use. The Catering Manager would, however, like to order two or three times the amount since he would be able to obtain cheaper rates for bulk. Furthermore, because the stores can only accommodate one day's requirement of vegetables, there are certain problems in catering for Bank Holidays and other holiday periods.

The receipt of ready-portioned meat has also had its problems. The Catering Department have found themselves paying top prices for meat

of dubious quality and, therefore, much prefer to prepare their own meat. It is felt also that a deep freeze might have been more appropriate than a Cold Store for meat, since problems of meat delivery have forced the hospital to hold a stock of three to four days' supply.

In summary, then, the Catering Department has found it difficult to put into practice the planned policies concerning the volume and form in which supplies of provisions should be received and, indeed, if it was possible to do so, they would reject the policies in favour of true bulk buying.

Although it is easy to criticise the planners in retrospect, it does seem that there was a certain lack of foresight here, with the result that running costs for the Catering Department fall short of the Best Buy aim of economy.

PHARMACY STORE

The Pharmacy Store, though leading from Loading Bay A, is controlled entirely by the District Pharmaceutical Officer, i.e. it does not come under the jurisdiction of the Stores organisation.

The amount of stock varies according to the product. Of those items supplied commercially there might be stocks for one fortnight or ten weeks. Some products from Farnham are supplied daily.

Storage space is under heavy pressure and the current layout, with metal racking running parallel to the exterior wall of the Supply Centre in the largest part of the Store (see fig. 3 for plan) causes mobility problems.

The District Pharmaceutical Officer plans to refurnish the Store with

mobile cabinets so that he can increase the amount of real storage space.

It is probable that the Pharmacy Store would not be the only one to benefit from a change in layout. Certainly it is worthwhile mentioning that lack of storage space is not always synonymous with lack of ground space. Despite the obvious thought that has gone into the provision of storage units over the years, it is not unusual to find departments where some cupboard provision is not used, because it is inappropriate to the total range of articles being stored, or where the storage units themselves are flexible but their provision has been inadequate. Undoubtedly this will be a problem of hospitals in general, not simply of Best Buy. Within the limits of this project it has not been appropriate to investigate the subject thoroughly. The reader is thus referred to the Scottish Hospital Centre document 'Storage at Point of Use'[1] which not only discusses storage but provides an extensive bibliography on various features of supply and disposal.

Storage in the Pharmacy Department

Space of any kind in the Pharmacy Department is 'desperately short'. The Dispensary itself has expanded into an area designated 'containers/ cylinders' (fig. 10). Storage facilities are ranged round the perimeter of this room.

One structural alteration has been made, to create a strong room, and additional shelving in that area has helped to increase storage space.

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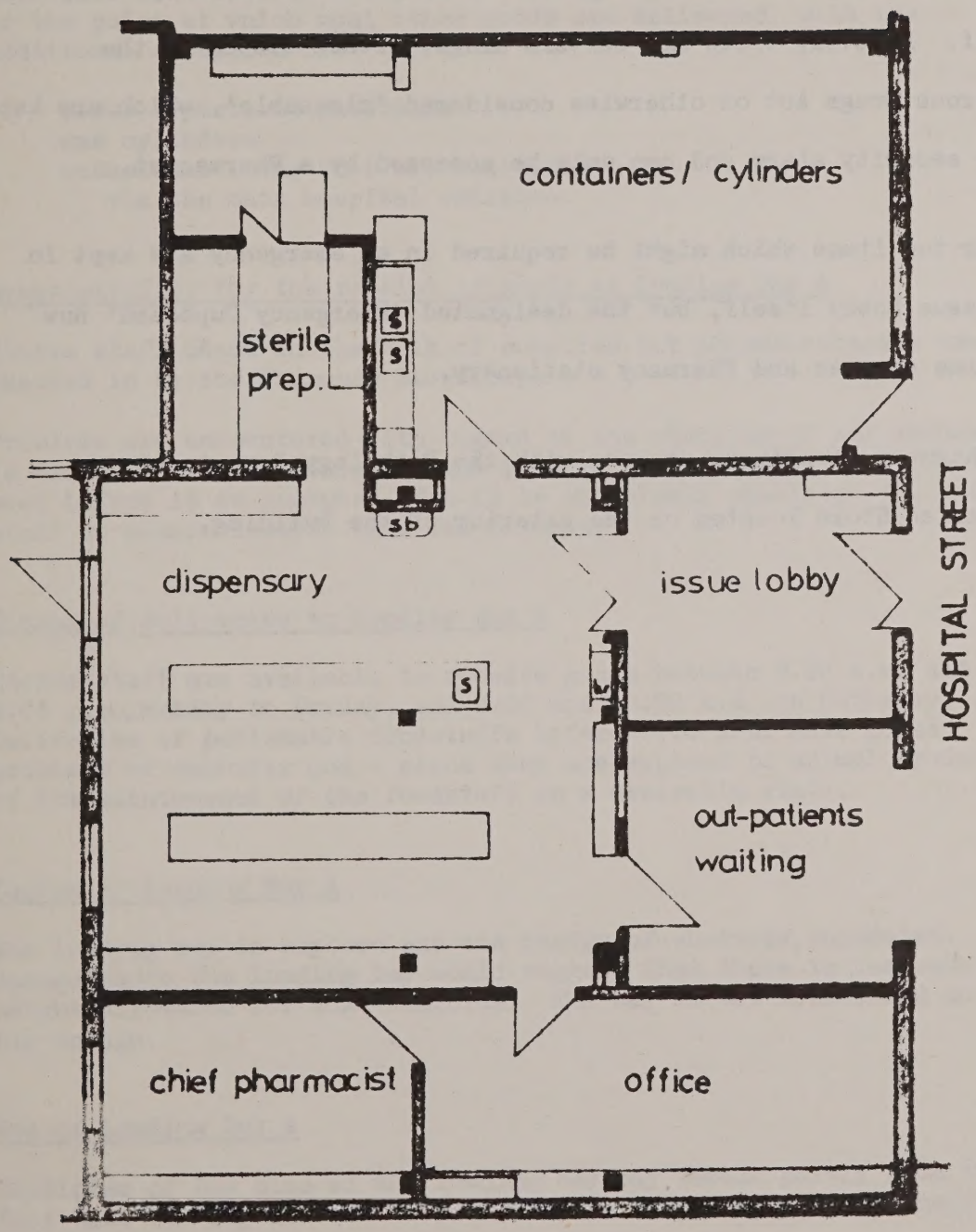
1 Scottish Hospital Centre,
Storage at Point-of-Use,
Edinburgh, Scottish Hospital Centre, 1973

FIGURE 10

PHARMACY DEPARTMENT



Planning policies mention the existence of a built-in security cupboard in the Issue Lobby, to which access could be given for night time emergencies. This cupboard is located behind the door of the Issue Lobby. It is not used for the purpose intended. The District Pharmaceutical Officer commented that it would have been pointless to use it, as doctors entering the Pharmacy would probably not remember, or even know, that it existed. Thus it is permitted for authorised staff to obtain a key from the Switchboard to enter the Dispensary itself. However, there are certain drugs, either listed in the Dangerous Drugs Act or otherwise considered 'misusable', which are kept under security alarm and can only be accessed by a Pharmacist.

One or two items which might be required in an emergency are kept in the Issue Lobby itself, but the designated 'Emergency Cupboard' now contains samples and Pharmacy stationery.

The Pharmacy Department shares, with the Pathology Department, a Flammables Store located on the exterior of the building.

Summary: Frimley Park Hospital

Receipt of goods at Loading Bay A and use of storage areas accessed via the Bay

LOADING BAY A

Effect of altered design of Supply Centre on receipt of goods at the loading bay.

The original design of the Supply Centre (fig. 2) would have required linen and sterile packs to be delivered at Loading Bay A. Currently these are delivered at a separate loading bay and Loading Bay A (fig. 3) is the point at which most other goods are delivered, with the additional exception of:

Works Department materials
gas cylinders
occasional items that are delivered via the main hospital entrance.

Responsibility for the receipt of goods at Loading Bay A

Stores staff check in the bulk of supplies but pharmaceuticals are checked in by the Pharmacy Storekeeper.

Problems are encountered with regard to the checking of provisions: it is preferred that a member of the kitchen staff should see, for example, meat before it is accepted, but it is not always practical for Stores staff to summon someone from the kitchen.

Timing of deliveries to Loading Bay A

Stores staff are available to receive goods between 8.00 a.m. and 4.00 p.m., Monday to Friday, and 8.00 and 10.00 a.m. on Saturday. Deliveries of perishable foodstuffs before 8.00 a.m. have posed problems of security and - since they are exposed to animal predators - of the maintenance of the foodstuff in a desirable state.

Design of Loading Bay A

The loading bay is exposed and the design of shutters unpopular. Some damage above the loading bay would suggest that there is inadequate height allowance for some vehicles. The bay is not considered to be big enough.

Use of Loading Bay A

Criticism of the size of the loading bay may result partly from the fact that the bay is cluttered. This, in turn, may reflect insufficient space in the Stores.

MAIN STORE

Storage space is found to be under considerable pressure.

Comparison of current stock-holding with planned stock-holding

In the Main Store, current stock-holding is greater than that planned, a factor which contributes to the pressure on storage space.

Changes from planned use of specific design features

The shutters between the Main Store and the Distribution Area (fig. 3) are not used; it is considered easier to bring the trailers into the Store for loading. The extra space thus acquired has been fitted with shelves for storage.

For reasons of security, one of the entrances to the Store has been closed off.

Security of the Store

The location of the offices - away from the Main Store entrance from the interior of the hospital - is felt to be unsatisfactory from the point of view of security and supervision in the Store.

PROVISIONS STORE AND STORAGE IN THE KITCHEN

Pressure on storage space in the Provisions Store and in the Kitchen is severe. Foodstuffs spill over into the Main Store area and into the store originally designated for 'samples' (see p. 19).

Comparison of current stock-holding with planned stock-holding

Just as in the Main Store, current stock-holding in the Provision Store is greater than that planned.

Problems encountered within the context of the 'convenience' kitchen

In the kitchen, the purchase of convenience foods has not always been practical, even when such items are available (because, for example, items such as prepared vegetables do not keep). This has resulted in heavy pressure being placed on preparation areas. Additionally, however, the hospital uses large quantities of frozen foods, for which the original provision of freezers has proved inadequate.

PHARMACY STORE AND STORAGE IN THE DISPENSARY

The Pharmacy Store is under pressure. Experience has shown, however, that 'real' storage space can be increased by careful planning of shelving units. Space in the Dispensary is also under pressure.

Change from planned use of a specific design feature

The Emergency cupboard, for night supply, in the Issue Lobby of the Pharmacy is not used because it was considered more practical to allow authorised personnel to have access to the Dispensary.

3.3 Brief discussion of the capacity of stores

The strongest argument in favour of increasing hospital storage space - within the context of the present Supplies system - is that it could enable the hospital to cut running costs by buying in quantity. But it is not a simple matter to assess the capacity of storage space which would optimise stock-holding for economic running. There is a point at which 'bulk' becomes uneconomical because of the cost of the space it is monopolising. Furthermore, of course, it is necessary to weigh the advantage of bulk buying against some inevitable wastage (some provisions have a fairly short storage life, for example, while consumables in the medical field are not infrequently superseded by innovations). There has been much publicised discussion of the optimisation of storage space. Requirements for space at Greenwich District Hospital were calculated on the basis of formulae developed by the Oxford Regional Hospital Board.[1] A recent logistical study carried out for the Berkshire AHA looks at the potential saving that can be expected from store centralisation in that Area.[2]

Discussion of bulk storage requirements at the individual hospital might prove irrelevant in the light of the recent recommendations, made by the Supply Board Working Group,[3] that stores should be organised on an Area or joint Area basis. Nevertheless, either there must be some

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1 Holroyd, W A H (ed), Hospital Traffic and Supply Problems, King Edward's Hospital Fund for London, 1968 (page ref. 99)

2 Bennett, C P and Duncan, I B, Operational Research (Health and Social Services) Unit, A Study of Possible Storage and Distribution Systems for Berkshire AHA, University of Reading, 1976

3 Department of Health and Social Security, Report of the Supply Board Working Group, London, DHSS, May 1978

facility within each Area that can receive commodities in sufficient bulk to achieve optimum economy, or the present Hospital Stores must be transformed into outposts of larger Area bulk stores. In the latter case, of course, we are not talking in terms of the elimination of bulk storage on the hospital site. However, it is interesting to speculate that, if it proves practical to implement fully the recommended stores arrangements, then the Best Buy hospitals, with their short-term holding stores, may find themselves in a situation with similar practical implications to that for which they were originally planned.

Whatever the changes of the future, it must be accepted that, in the context in which there is currently no off-site bulk storage, the holding capacity of the various stores at Frimley Park Hospital may well be uneconomic; attempts to increase the holding have, of course, led to considerable pressure on space.

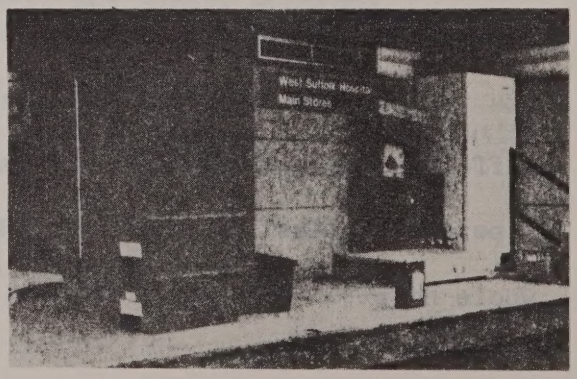
4 The West Suffolk Hospital: receipt of goods at Loading Bay A

The types of commodities received at the Main Stores loading bay (fig. 5) are much the same as at Frimley Park, i.e. the majority of supplies with the exception of laundered linen, sterile packs from CSSD, gas cylinders and Works Department materials. Here, it is theoretically only postal deliveries to departments, such as Pathology, which might by-pass the main delivery area. In this respect the situation may be different from Frimley, where some small commercial deliveries are alleged to be received direct by the department that has ordered them, rather than via the Stores. However, in order to substantiate that such a difference does exist it would be necessary to do some recording over a period of time. If some departmental deliveries do by-pass the whole hospital systems of supply, then this is a factor which erodes

the autonomy of intra-hospital deliveries. Such autonomy was advocated by the Best Buy planners not only as a means of using resources efficiently but as a means of rationalising traffic flow in the hospital street (see Section 6).

At the West Suffolk, the Stores organisation is responsible for receiving all goods which arrive at Loading Bay A: there is no Pharmacy Store in the Supply Centre and thus no additional personnel checking goods on the loading bay. However, many pharmaceuticals arrive at the hospital via the Store at St Mary's (the off-site Pharmacy Store) and they may have been checked against the original orders prior to delivery at the hospital. It is with special orders for other departments that problems sometimes arise as a result of the arrangement for the receipt of goods. Materials for the Occupational Therapy Department, for example, are occasionally found, on reaching their destination, to be unsuitable for the purpose for which they were intended. This is no fault of the Stores personnel: they cannot be expected to know what is required on each occasion. However, it does cause inconvenience to the department because, once the delivery man has gone, there will be delays in solving the problem.

The Stores are open from 8.00 to 5.30 on weekdays and from 8.00 - 1.00 p.m. on Saturday. Staff are thus available to receive deliveries during these times. Just as at Frimley, however, milk and fish arrive much earlier in the morning and occasionally milk disappears as a result of being left unattended. The fish arrives at 4.00 a.m. on Tuesdays and Fridays: to solve the problem of leaving it exposed on the bay, a domestic freezer has been located here (inset).

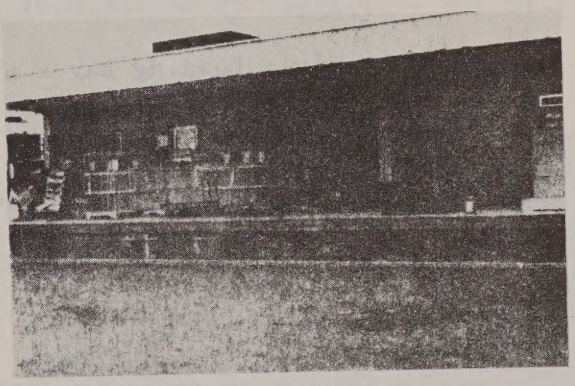


Deliveries to the hospital from the Area-Substores are, theoretically, timetabled: provisions arrive on a Monday, medical and surgical goods arrive fortnightly on a Friday afternoon and, on the alternate Fridays cleaning materials, hardware, etc., are delivered. However, in order to fulfill the orders from wards and departments, there is considerably more traffic between the Stores than the timetable would imply.

Pharmaceuticals may arrive each morning. Commercial deliveries, of course, of which there are more than anticipated, tend to arrive on a less routine basis.

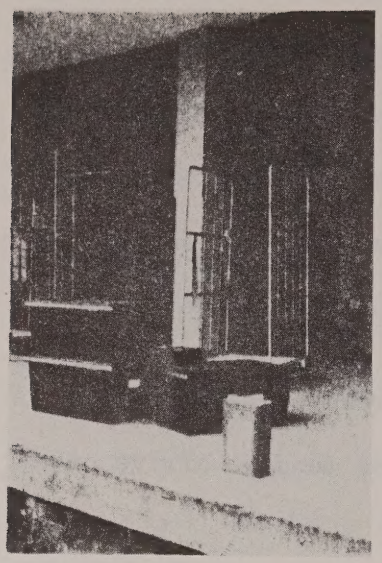
Discussion of the design of Loading Bay A

Criticism of the design of the loading bay at the West Suffolk is very similar to that voiced at Frimley Park. The shutters, with their pulley mechanism, are not popular: horizontally closing doors would have been preferred. The temptation to leave the shutters open, because of the difficulty of the mechanism, exposes the inner part of the loading bay to wind and rain and, of course, renders the Store insecure.



Here, as at Frimley, the overhang of the loading bay tends to get battered by tall delivery vehicles. However, the span of the Bay is found to be adequate, since it is rare to have more than three vans delivering goods at any one time.

On the inner part of the loading bay, built-in platform scales are in an awkward position, forming an obstruction in the route from the unloading vehicles to the Main Stores entrance. They are used rarely,



except for the occasional weighing of meat and it is thus felt that mobile scales would have been preferable. Again, as at Frimley, that part of the loading bay inside the shutters has become rather cluttered. On the side adjacent to the Provisions Store racking has been sited to cope with some overspill of catering supplies.

Stores accessed via Loading Bay A: The West Suffolk Hospital

In the Supply Centre at the West Suffolk (fig. 5) the major storage areas stocked via Loading Bay A are as follows,

The Main Store holds

medical and surgical sundries

X-ray films (unlike Frimley)

dressings

disposable bed-pans, etc.

a minimum of stationery (most is stocked at the Sub Area Store)

hardware

cleaning materials

light bulbs

The Provision Store holds

frozen, dry and tinned goods.

Perishable goods are delivered direct to the kitchen, as at Frimley, in accordance with planning policy.

Other items are forwarded direct to the appropriate department;

these include

special orders for any department

Occupational Therapy materials

items for Pathology Department

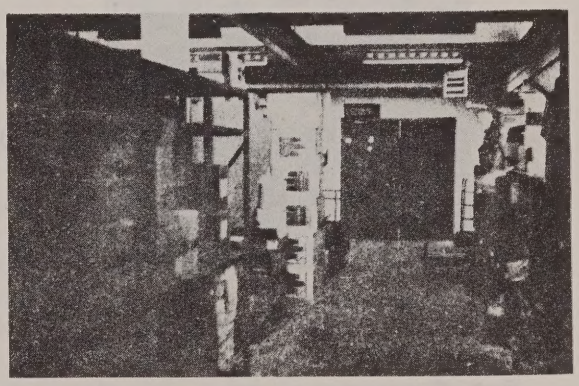
furniture.

MAIN STORE

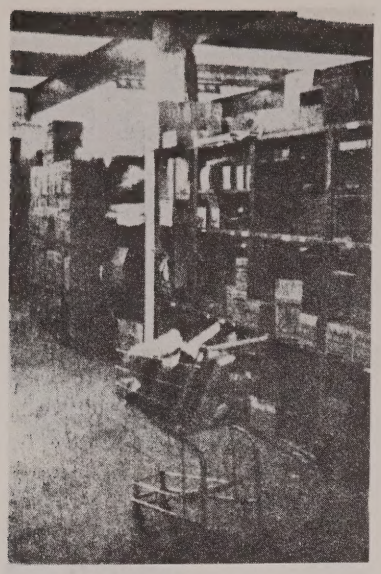
Amount of stock held

The Main Store at the West Suffolk was sized for a maximum holding of four to five days' supply. It is estimated, however, that it generally holds between a fortnight and three weeks' stock, although some stocks may not last as long, while others last considerably longer.

Although the Store is holding more than originally planned, staff within the Bury St Edmunds Health District would rather it had a greater capacity, to cope with bulk. Planners in London, it is alleged, overlook the problems of supply encountered in the Provinces, where commercial suppliers, coming from a long distance, are not prepared to make frequent deliveries. Just as at Frimley, it was commented that firms impose financial penalties on the consumer who orders in small quantities.



The West Suffolk Store has an advantage over the Store at Frimley because the existence of the Sub Area Store does ease the pressure on storage space. However, it is likely that more breakdown of goods from bulk takes place at the Hospital Store than was anticipated.

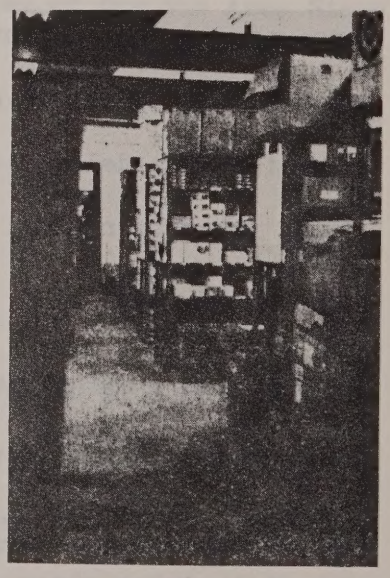


This is because of the form in which goods are delivered. Space for managing bulk-breakdown is negligible in the West Suffolk Store and, indeed, this might explain why the loading bay tends to get cluttered.

The system of stock regulation used at Frimley is not employed at the West Suffolk because of the different nature of the Store. The assessment of need within the hospital is, therefore, more a matter of personal judgement. When the stocks are due to be replenished from the Sub-Store, sufficient is ordered to fill up the shelf space allocated to each commodity: for one or two of the fast-moving items, however, a more rigorous guideline has been assessed and notice of this is pinned to the shelves.

If a stock item runs out, a telephone call can be made to the Sub Area Store to arrange supply. One of the Hospital Stores staff might go to collect this stock.

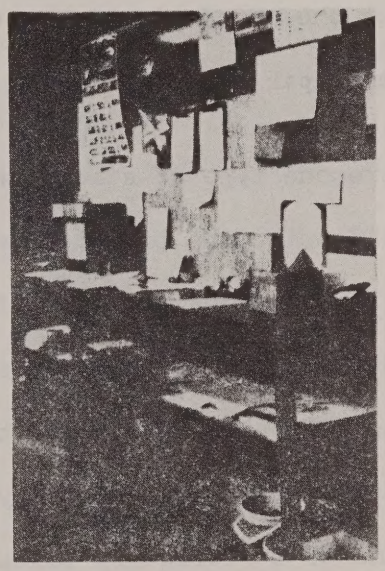
Demands on space



For the moment, storage space within the Main Store is considered to be adequate providing it is not deemed necessary to hold more than three weeks' supply of commodities. However, with further extensions planned to the hospital, problems are likely to be encountered in the future. The Store is not holding a stock of all 'stores' generally used throughout the hospital: stationery, for example, is held at

the Area Sub Store and delivered in containers for direct distribution. Such an arrangement is close to the planners ideal that 'the object is to receive goods already packed in convenient sizes' for distribution (Planning Policy IID, p. 7) but very few of the total range of supplies are treated in this way.

Just as at Frimley - and for the same reason -, neither the shutters between the Main Store and the Distribution area nor the door adjacent to the ramp are used. The staff have taken advantage of some of the extra space created to provide an additional desk for Stores paperwork (inset) because office space is under pressure. It has already been noted that office files have spilled over into that part of the Store adjacent to the office. This represents the situation after only a few years: paperwork is bound to build up much more during the course of time.



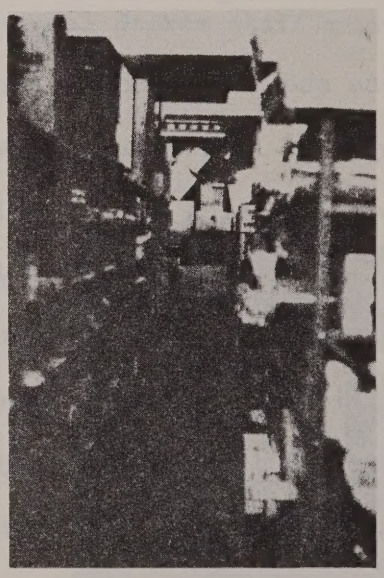
These shelves of files, together with a couple of lockers and a few boxes, effectively partition off a small space which the Stores staff use as a sitting area. No such facility was built into the plans, presumably because staff were intended to take their breaks outside the department. However, there might be certain advantages, in terms of security, in having staff remain in the Store, although this area and the Storekeeper's office adjacent (see fig. 8) are not in ideal locations to oversee people entering the Store from the Distribution area.

A second door from the Main Store to the loading bay is unused. In the Store itself, the area in front of this door is used for the

storage of X-ray films and boxes of disposable towels.

One criticism of the Stores design, which was not raised at Frimley, concerns the capacity of racking provided. On these racks, shelves are only a foot deep, which is rather narrow for the majority of packages held. This means that, in order to accommodate one type of commodity, it is sometimes necessary to use the increased depth created by placing two sets of shelves together. Stores staff argue that 18 inch racking would considerably improve storage capacity. This is undoubtedly true, but it is perhaps worth commenting also that these open-ended shelves are at least more flexible than the same depth of shelf with a closed back.

Where one type of stock can be accommodated within the depth of one shelf unit, the practice seems to be to use two sets of shelves much as in a supermarket, i.e. to have one commodity accessible from one side and another from the other. The corridors formed between two sets of shelves sometimes become cluttered (inset) inhibiting mobility. The clutter seems to be formed by boxes which have been emptied or, in some cases, boxes which are waiting to be unloaded onto the shelves. This is, perhaps, a visual indication that space for bulk breakdown has proved rather inadequate.

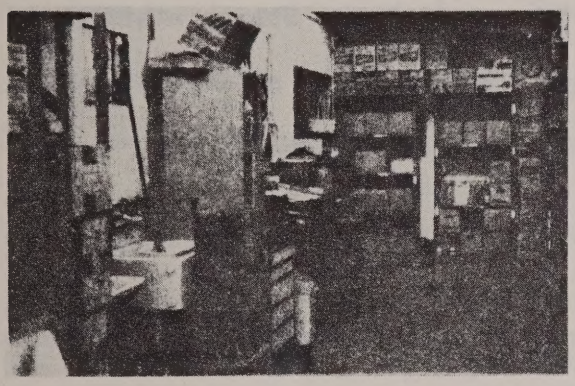


PROVISIONS STORE

The Provisions Store holds 10 days' supply of food rather than the four to five days' planned. It has not proved practical to hold

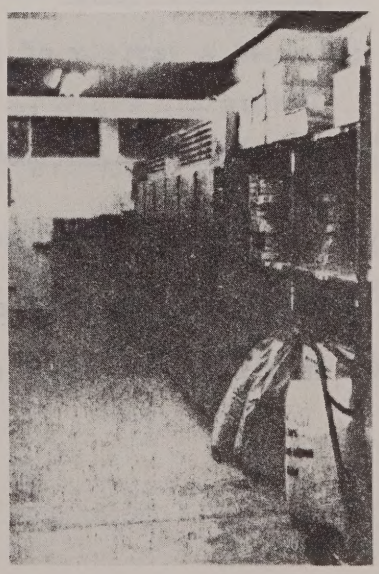
less since the Area Sub-Store supplies catering provisions weekly and the hospital must have some stocks in hand to cope with emergencies. If perishable stocks go bad, for example, it must be possible for the kitchen to draw on tinned reserves.

Just as at Frimley, the storage space here is under pressure and stocks have spilled over into another area, in this case the loading bay.



It is considered that if the counter and sinks were resited, the Store could be efficiently used and its capacity thus increased. Storage capacity has already been increased by extending some metal shelving to the ceiling. Some of the original racking is wooden and it is not as popular as metal racking because boxes do not slide easily over its surface.

The freezer units in the Provisions Store have caused considerable problems since the hospital opened. They have broken down on several occasions, causing food to go bad. They are now fitted with an alarm system. However, it is felt that these freezers are used less efficiently in their current location than they would be if sited within easier access of the kitchen. Here, as at Frimley, the distance between the kitchen and the Supply Centre and the necessity to convey supplies up the ramp makes constant use of the Store impractical



Indeed, the planners did not intend that the Provisions Store should be used in the same way as the other kitchen storage areas. However, it is unfortunate that this is so if units, such as the freezers, are not being used efficiently, particularly as storage space is tight in the kitchen itself.

The amount of circulation space in the Provisions Store is found to be inadequate to make practical the use of palette trolleys for the conveyance of boxes of provisions. This means that Stores staff must do a great deal of lifting and carrying which is not satisfactory in terms of the physical strain imposed on the individual.

Food storage in the kitchen

At the time of the study the kitchen stores (see fig. 9) were organised as follows,

The Day-toDay Store contained,

tinned foods

bread

bins for pasta, flour, etc.

some frozen goods (in one freezer)

The Cold Meat Store has been converted into a freezer and therefore contained a variety of frozen goods.

The Kitchen Cold Room and Vegetable Store were used as designated.

The Pantry has been removed altogether and the space converted to a food preparation area. Commodities for the Staff Dining Room were stored in a cleaner's room adjacent to the entrance to the Staff Dining Room.

As at Frimley, the delivery corridor from the Hospital Street was being used for storing some items but it also retained its use as a delivery corridor.

This is a very rough sketch of the storage of catering provisions in the West Suffolk Hospital kitchen. There is nothing in the planning policies with which to compare the specific use of each of the storage facilities (though the intended use of the Vegetable Store, for example, is self evident). However, there are fundamental divergencies from the plan, such as the conversion of the Cold Meat Store and the removal of the Pantry.

The concept of the 'convenience' kitchen has already been mentioned. At the West Suffolk the system was not accepted as ideal because of the limitations of expense imposed by buying convenience foods. A compromise has therefore been reached so that the Catering Department stocks both convenience and non-convenience foods.

The problem of the short life of those fresh, prepared vegetables that are in use is solved here by reverting to the use of frozen or tinned vegetables at times when the daily supply of fresh vegetables is interrupted by Bank holidays etc. However, not all fresh vegetables are received ready prepared.

Here, as at Frimley, the number of freezers provided has proved inadequate. This problem has been partially solved by the conversion of the Cold Meat Store, but there is now a problem of finding space to defrost the meat. As already mentioned, it is considered that the freezers in the Supply Centre would be more efficiently used if there was room to locate them in the kitchen.

The per diem quantities of stock held in the West Suffolk Catering Stores vary a little from those held at Frimley. Meat, for example (frozen) is received once, rather than twice a week, frozen vegetables are received twice weekly rather than three times. However, both hospitals receive a daily supply of fresh vegetables, sufficient being supplied on a Saturday to cover the weekend. Frozen fish is received, at the West Suffolk, two or three times per week.

STORAGE IN THE PHARMACY DEPARTMENT

The provision of Pharmacy storage space was different for the West Suffolk and for Frimley. The Frimley Pharmacy was provided with a Store in the Supply Centre because it was to be the main focus of a group supply service. The West Suffolk Pharmacy was not provided with any additional storage space: it was to be serviced by an off-site Pharmacy and was not to have any supply function outside the hospital.

In practice the West Suffolk Pharmacy does provide a District service for the supply of pharmaceuticals. However, the need for on-site storage is rooted in factors far more fundamental than the expansion of the service. The economic problems of buying in small quantity or transporting in small quantity have already been mentioned. So too has the fact that low stock-holding makes it difficult to meet prescriptions without delay. It has been convenient for the West Suffolk Pharmacy that a Store on the St Mary's site could be retained, but this too has had its problems, so there are now moves to create additional storage on-site.

Having made these points, it will already be clear that storage space within the Dispensary is under pressure. Here, the room labelled 'containers/cylinders' (fig. 10) is filled with metal racks

containing pre-packed pharmaceuticals and some of the larger stock bottles. Two metal cupboards contain the pre-packed scheduled poisons, while another contains the stock for family planning clinics. In the alcove (that at Frimley has been converted to a Strong Room) three metal cupboards are wired up to a burglar alarm providing storage for those items that must be kept secure. The remaining space is filled with crates of sterile water. The function of the entire space is, therefore, very much one of storage, while at Frimley it provides additional space for dispensing.

At the West Suffolk Pharmacy the Emergency Drug Cupboard in the Issue Lobby is not used quite as intended. Just as at Frimley, senior staff are able to gain access to the main Dispensary should an emergency arise outside normal opening hours. However, as they cannot gain access to those items which are under security alarm, the Emergency Cupboard contains doses of each of several items normally kept under the alarm.

The Pharmacy Department shares, with the Pathology Department, a Flammables Store located on the outside of the building. The arrangement is not a popular one although the space itself is felt to be adequate.

Summary: West Suffolk Hospital

Receipt of goods at Loading Bay A and use of storage areas accessed via the Bay

LOADING BAY A

Effect of altered design of Supply Centre on receipt of goods at the loading bay.

Just as at Frimley, alterations to the Supply Centre have resulted in sterile packs and laundered linen being routed via a separate loading bay.

In other respects also, goods received at Loading Bay A are much the same as at Frimley.

Responsibility for the receipt of goods at Loading Bay A

Stores staff receive all goods.

Problems are sometimes encountered at department level because the accepting of goods in the Supply Centre means that occasionally an article gets through which does not meet user requirements. The process of return is then complicated because the delivery van has left.

Timing of deliveries to Loading Bay A

Stores staff are available to receive goods between 8.00 a.m. and 5.30 p.m., Monday to Friday, and 8.00 a.m. and 1.00 p.m. on Saturday. Here, as at Frimley, early deliveries have posed problems.

Design of Loading Bay A

The loading bay is subject to similar criticism as at Frimley: the design of shutters is unpopular; some damage has been caused by vehicles; the bay is cramped. Additionally, the location of weighing scales has proved unsatisfactory.

MAIN STORE

Office space, rather than storage space, has come under heavy pressure. Some files are now stored in the Main Store.

Storage space in the Main Store is adequate for present use but it would be preferred if there was more capacity for bulk. There is some criticism of the shelving.

Comparison of current stock-holding with planned stock-holding

In the Main Store, current stock-holding is greater than that planned.

Changes in the planned use of the Store

Of necessity, breakdown of goods from bulk does occur in the Store. This is contrary to plans; the large boxes tend to clutter circulation space.

Changes from planned use of specific design features

As at Frimley, the shutters between the Main Store and the Distribution area are not used.

One of the entrances to the Store has been closed off.

Security of the Store

Criticism of the location of the office is the same here as at Frimley, i.e. it is not in an ideal location for overseeing people entering the Store from the Distribution area.

PROVISIONS STORE AND STORAGE IN THE KITCHEN

The Provisions Store is under pressure. Some items have to be stored on the loading bay. It is felt that the re-siting of some fixtures might improve the capacity. Circulation space in the Provision Store is found to be cramped.

Comparison of current stock-holding with planned stock-holding

Current stock-holding in the Provisions Store is greater than that planned.

The siting of the Provisions Store

Within the context of the present working situation, the ramp access between the Stores and the Kitchen represents a problem for the kitchen staff.

The location of freezers in the Supply Centre, rather than in the Kitchen, has meant that they are inefficiently used.

Problems encountered within the context of the 'convenience' kitchen

In the Kitchen, convenience foods are not as widely used as planned because of problems of expense.

The inadequacy of freezer storage has been a problem here, as at

Frimley.

THE DISPENSARY

Local storage in the Pharmacy has proved grossly inadequate. Plans exist for the creation of an on-site Store.

Change from planned use of a specific design feature

The Emergency Cupboard in the Pharmacy Issue Lobby is not used. Here, as at Frimley, senior staff are able to gain access to the main Dispensary, outside normal opening hours.

5 Emergency Call Store

5.1 Frimley Park Hospital

On both the original and the altered plans, one store room within the Supply Centre (figs. 2 and 3) was designated 'Emergency Call Store'. It was envisaged by the planners that this would hold a reserve stock of furniture or equipment (cots, respirators, etc.) which would only rarely be needed outside specialised departments, plus stand-by stocks of items in common use to meet immediate needs when the Main Store was closed. It was suggested that the key to this store could be kept on the master keyboard for use by the duty porter; or it could be issued against a signature.

In practice, the store room has never been used in this way. Although the idea was accepted in theory as a useful one, there seemed to be no demand, in the first few months after the hospital was opened, which would indicate what type of 'common-use' items should be kept. Neither were there enough items of equipment to make the facility worthwhile. Thus at Frimley the Store has been taken over for the storage of equipment.

However, the Supplies Assistant and the Hospital Administrator are still mulling over the idea of providing an Emergency Call Store. Once the problem of what it should contain has been resolved, this store will be provided on the first floor of the hospital

In place of the Emergency Call Store facility there is a procedure whereby, in an emergency, the Supplies Assistant can be recalled to issue goods from the Main Stores. This system enables the Stores organisation to keep a check on issues for the purposes of re-ordering and also, of course, aids the maintenance of security. In

fact, the only people who hold keys to the Stores, other than the Supplies Assistant, are the staff member who opens the Stores in the morning and the Hospital Administrator, who holds the key only in case of fire.

3.5.2 The West Suffolk Hospital

The 'Emergency Call Store' in the Supply Centre at the West Suffolk became the 'Emergency Equipment Store' as a result of alterations (figs. 4 and 5). It is now used as the hospital's CSSD store.

If items from the Main Store are needed in an emergency, outside normal opening hours, porters can gain access using the master key held by the Portering Services Manager. In theory any item removed should be recorded.

.6 Frimley Park Hospital : receipt of goods at other loading bays

Receipt of goods at Loading Bay B

The extension to the Supply Centre has already been mentioned in this report. This extension, incorporates both a bay for the receipt of clean linen (Loading Bay B, fig. 3) and a bay for the return of dirty linen.

Receipt of linen

Clean linen arrives at Loading Bay B at about 8.15 in the morning, daily, from Tuesday to Saturday. Here it is unloaded by porters and sorted into shelves by the Linen Room staff.

At the time of the study an additional delivery of linen was being made in the afternoon because the combination of shortage of staff at the Laundry, and shortage of linen in the system, made it difficult for the Laundry to supply adequate stocks each morning.

The loading bay itself suffers from similar problems to those of the Main Stores loading bay, i.e. it has no protection from the weather. Here, rain seeps in even when the shutters are closed and, since linen is initially unloaded onto the floor, the Linen Room staff are faced with the problem of keeping stock dry. Additionally, there is no lobby separating the loading bay from the storage area, thus in winter time, in particular, the Linen Room staff find themselves working in extremely low temperatures.

Receipt of goods at the 'Dirty Linen' Bay

Sterile supplies

The new extension is also the area in the Supply Centre at which

sterile supplies are received. Whether this was intended by the planners is not clear, but in organisational terms it is logical both because District policy is such that sterile supplies and linen share the same vans and because current arrangements of supply would make it impractical to bring sterile supplies through Loading Bay A.

However, because Loading Bay B leads directly into the linen storage area, it is also logical that sterile supplies cannot be delivered there, the area being too small to create a thoroughfare. Thus sterile supplies are delivered at the bay from which dirty linen and returns for CSSD are collected. This means that the separation of clean goods from dirty has not been achieved in the new extension. However, since sterile supplies are received in closed cloth bags, for direct delivery to users, the problem may not be as grave as it seems. What may be a problem is the degree to which space is restricted when dirty linen and CSSD bags are waiting collection.

Sterile supplies arrive first thing in the afternoon and are unloaded and delivered to user departments by the porters.

Medical gas cylinders

Medical gas cylinders (for portable appliances) are also received at the 'Dirty Linen' Bay. This is because ordering and distribution of these cylinders has become the responsibility of the Portering Services. This is a divergence from the planned policy, since there is indication that the Pharmacy Department would be responsible for the distribution of gas cylinders. Indeed, the room adjacent to the Dispensary was labelled 'Containers/Cylinders' in the plans, suggesting that this might have been seen as an interim store. However, in practice, the room has become a second dispensing room and, in terms of responsibility

for gas cylinders, the District Pharmaceutical Officer has now an occasional monitoring function, rather than an active involvement.

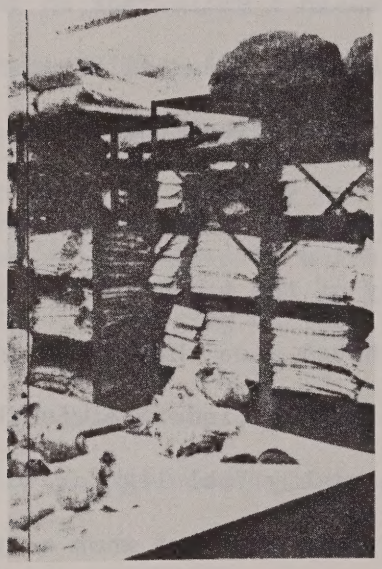
The storage of gas cylinders has been a problem from the outset. Originally a small store room was allocated for this purpose in the Supply Centre. It proved to be grossly inadequate, and whether for this reason, or some other, is now used by the Engineering Department. Furthermore, the Manifold Room under the Supplies ramp has little space for cylinders not connected to the system, thus there is, at present, no storage facility at all. Indeed, the majority of cylinders, not currently in use, are stored in a small rack in the Dirty Linen Bay or outside on the ground (see p. 86). All used cylinders also have to be left here, awaiting collection.

This is not a satisfactory arrangement in terms either of security or of the preservation of cylinders. A study of the problem made by the DHSS, in association with the hospital, showed also that seals on full cylinders disintegrate in the rain rendering them indistinguishable from empty ones. Although they would presumably feel lighter to the touch when lifted, this is not a very satisfactory test when a cylinder is urgently needed.

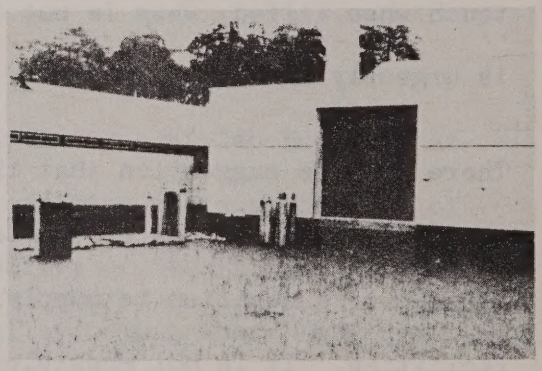
There is some suggestion that the requirement for gas cylinders for portable equipment has proved to be especially great at Best Buy because of a decision to supply only 'high dependency' beds with piped facilities. It is not possible to judge the truth of this without comparing consumption with hospitals where piped facilities are more extensive. Certainly it is found that the piped system is not used to the extent expected, which suggests that portable facilities may be in use instead. Ironically, it is felt by the Engineers that this is just as well, since staff are wasteful with piped services and the supply

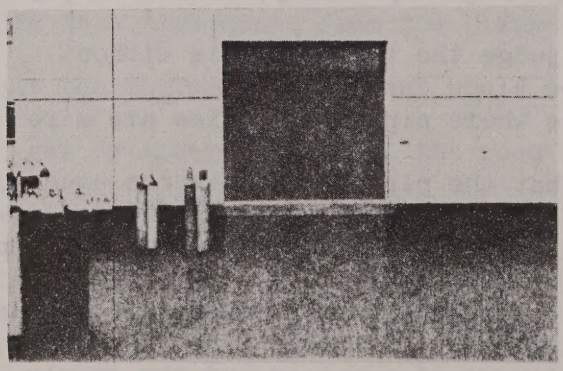
would not meet maximum demand. It is estimated that, by leaving the system running, the wastage is three times the amount of gas needed.

Whatever the reason for the large number of portable cylinders, it is not because the hospital stocks are excessively high. Orders are placed each week with the supplier so it is unlikely that the holding is much in excess of one week's supply. Until the storage problem is solved, therefore, porters have little choice but to leave these cylinders outside.



Linen room





Gas cylinders outside
Dirty Linen Bay

Frimley Park Hospital

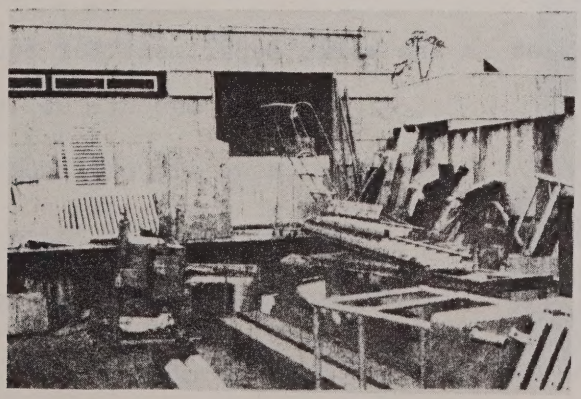
Receipt and storage of goods for the Works Department

The arrangement for deliveries to the Works Department remains, as planned, separate from the rest. However, vehicle access to the Building and Engineering Store's Loading Bay is rendered impossible by the necessity to user the Builders' Yard as a dumping ground for items for which no storage space can be found (illustrated below).

The Building and Engineering Store is very cramped and it is felt that the original racking did not make best use of the space. At the time of this study, attempts were being made to re-organise the Store so that items on the shelves were more accessible.

Among the major complaints about the design of storage space, here, were that nowhere had been allocated for the storage of sand, cement and building blocks. Nor had anywhere been allocated for the storage of equipment awaiting spares. The Works Department sometimes has to hold items for 6-9 months until new parts arrive.

To ease pressure on storage space, two garages in the Builders' Yard are used.



Summary: Frimley Park Hospital

Receipt of goods at Loading Bay B

As a result of alterations to the Supply Centre, laundered linen (a bulk supply) is delivered at Loading Bay B (fig. 3).

The linen is unloaded by porters and sorted by Linen Room staff.

Design of Loading Bay B

The loading bay is exposed; rain causes a problem here and the storage area immediately behind can be very cold for the Linen Room staff.

Receipt of goods at Dirty Linen Bay

Sterile supplies are delivered at the 'Dirty Linen' Bay, thus the entry for clean supplies and exit for dirty returns is not separated.

Medical gas cylinders are delivered at the 'Dirty Linen' Bay. These cylinders constitute a storage problem; many have to remain without cover.

Receipt of Works Department materials

Works Department materials are received, as planned, directly by the Works Department. Access to the loading bay, however, has become restricted.

Storage in the Works Department

The Building and Engineering Store is cramped. Insufficient space was allocated for all the materials held.

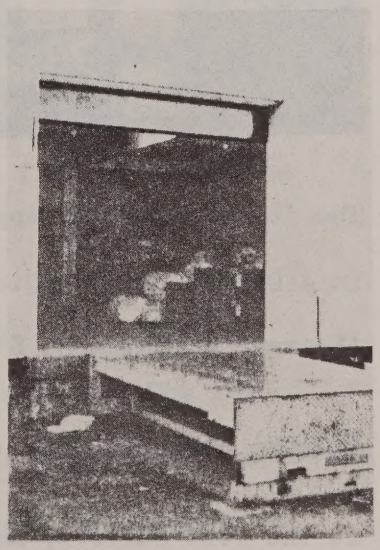
No space was allocated in the Works Department for equipment needing spares.

West Suffolk Hospital: receipt of goods at other loading bays

Receipt of goods at Loading Bay B

The 'Clean Linen' loading bay (Loading Bay B, fig. 5) was created, as at Frimley, by extensions made to the Supply Centre after the opening of the hospital. The space behind the loading bay is smaller than at Frimley, perhaps because there were still no plans to receive linen in bulk at the hospital. Whatever the reasons, the areas at the two hospitals are used very differently.

At the West Suffolk there is no linen storage in the clean linen area, though there is considerable overspill of supplies from the CSSD substore (inset) and items, such as wheelchairs, are left here. Some linen storage has been created, however, in the adjacent Sewing Room (the Sewing Room itself having been re-located on the ground floor of the main building). Despite the direct-to-user service of linen in general operation throughout the hospital, it is necessary for the hospital to keep a supply of linen for those departments which do not receive a regular allocation from the Laundry and in order that emergency requirements for extra linen can be met.

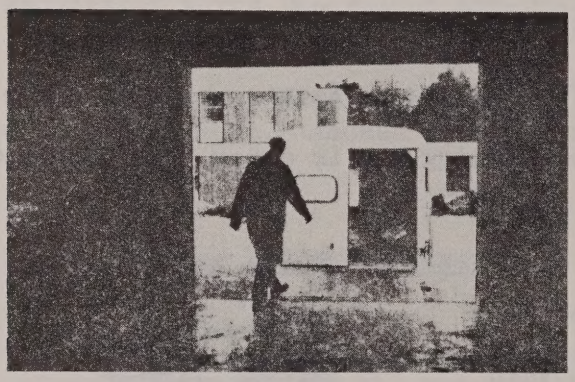


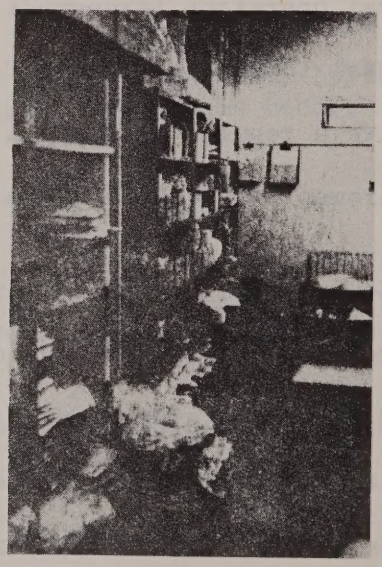
The Sewing Room may well provide a better environment for the storage of linen than the Clean Linen area itself. The latter, just as at Frimley, is exposed to the elements when the shutters are open. However, there is also the point that, if the area behind the loading bay was used for linen storage, it would not be possible to use the same loading bay for the receipt of sterile

supplies. As at Frimley, these supplies would then have to come through the 'Dirty Linen' area if it was desired to avoid the route through the Main Store. In practice, Loading Bay B is used for the receipt of sterile supplies from CSSD and the 'Dirty Linen' Bay is used only for returns.

Linen trolleys arrive at the loading bay in the morning, the first load having left the Laundry about 8.00 a.m. A delivery of bagged linen leaves the Laundry at about 5.30 p.m. Access to the loading bay is sometimes difficult because of the unofficial parking of cars in this area.

There are two deliveries of sterile supplies, one early in the morning, and one in the late afternoon. It should, however, be mentioned that some sterile supplies are delivered to the Outpatients Department at the front of the hospital.





The 'bulk' sterile supplies are stored in a CSSD substore which occupies the 'Emergency Equipment Store' (fig. 5).

Medical gas cylinders

At the West Suffolk, medical gas cylinders are delivered at the back of the Supply Centre, to a concrete pad from which refuse is also

collected. This places them adjacent to the Cylinder Store (fig. 5). Here, as at Frimley, it is not considered ideal that they should be left without cover.

Receipt and storage of goods for the Works Department

Delivery of Works Department materials to the West Suffolk remains, as planned, separate from other supplies.

The Area Store at Ipswich does not stock anything for use by the Works Department here, and little is stocked at the Store at St Mary's, thus the majority of goods are supplied by commercial manufacturers.

Unit Administration has no function in monitoring requisitions placed by the Works Department. This is the responsibility of the District Works Officer based at St Mary's.

In the normal way, requisitions made out in the Works Department are sent via the District Works Officer to Area Supplies, where orders are placed with the appropriate firms. Copies of the Area orders come back via the same channels so that they can be cleared when the delivery of goods is made. One of the copies of the cleared order is sent to the Finance Department as authorisation for payment. If supplies are needed urgently, however, an order can be placed directly with the manufacturer, providing that an order number is first obtained from the Supplies Department.

The range of goods held in the Engineering and Building Store is extensive and the space is under considerable pressure. The layout of shelving has been moved about in order to provide space for some of the larger items of equipment. But the shelving itself is found to be unsuitable for the storage of items, such as switches and plugs, which need to be both easily located visually while protected from falling

from the shelves. This combination has been achieved by placing a piece of wood along the front of the shelf. It seemed to the observer, however, that the plastic boxes used on the wards for the containment of supplies might be of use here, too (though they would be required in large numbers). A collection of smaller boxes are already in use for tiny items such as fuses.

One of the biggest problems in a store, where so many small items are stocked, is the maintenance of some kind of order. There is a Storekeeper, but he cannot, by himself, operate an across-the-counter system, where objects are retrieved by him in response to requests from the staff, and where there is therefore the potential to control the movement of stock. It is not only the staffing of such a system that is a problem, it is also that some components are difficult to describe and, in the long-run, it may be quicker to allow the Works staff to search through the stocks on the shelves for themselves.

Both here and at Frimley, staff have developed their own methods for keeping items in order and for facilitating ease of location. Here, for example, a board hung on the wall displays drive-belts by size, while many spares are classified by the name of the manufacturer, rather than solely by the type of part because, of course, they fit the equipment made by those firms. However, it is obviously a problem, in a relatively confined space, to develop a really efficient classification system: dividing objects into categories does mean that they tend to be spread over a wider area.

Although light bulbs are kept in the Main Store of the Supply Centre, it is sometimes necessary for hospital staff to have access to items kept in the Engineering Store during the hours of closing. This is achieved in the same way as it is for the Main Store, i.e. the portering 'Charge

Hand' holds the key.

Summary: West Suffolk Hospital

Receipt of goods at Loading Bay B

Clean linen and sterile packs are delivered at Loading Bay B (fig. 5). No deliveries are made at the 'Dirty Linen' Bay; this is reserved for returns.

Design of the loading bay

Loading Bay B is exposed to the elements.

The storage of goods entering Loading Bay B

Although ward linen is received for direct-to-user issue it has been necessary to create some linen storage space; this has been achieved by using the room designated Sewing Room and re-locating this latter.

The area behind the loading bay is cluttered with overspill from the CSSD substore and other items. The CSSD substore occupies the 'Emergency Equipment Store' (fig. 5).

Problems of access to Loading Bay B

Outside the loading bay, the parking of cars sometimes makes access difficult for the delivery vans.

Receipt of medical gas cylinders

Medical gas cylinders are delivered at a point behind the Supply Centre where refuse is collected. Here they are not under cover.

Receipt of Works Department materials

As planned, delivery of Works Department materials remains separate from other supplies.

Storage in the Works Department

Space in the Engineering and Building Store is under considerable pressure.

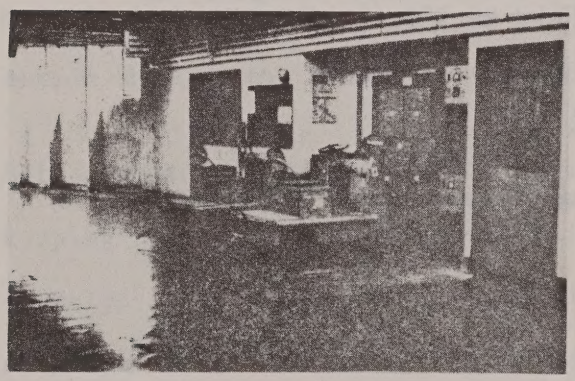
Shelving, by itself, is not found to be totally suitable for the storage of a good many items.

SECTION 4 : SOME DETAILS OF THE TUG AND TRAILER SYSTEM

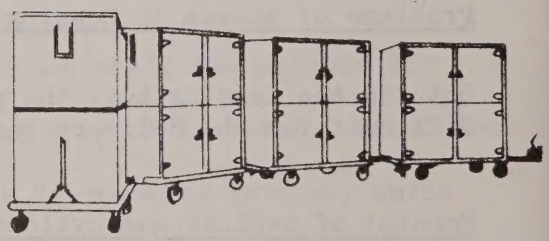
A discussion of the situation at both Frimley Park and the West Suffolk Hospital

4.1 Tugs and trailers in use

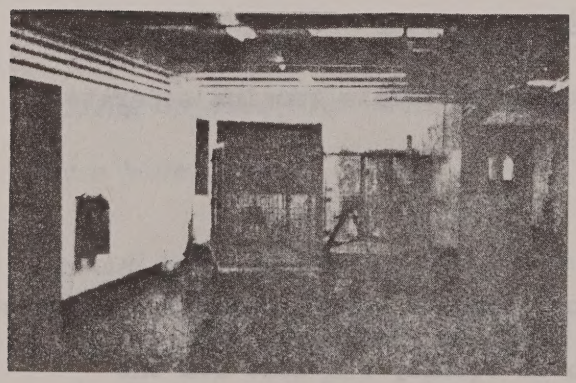
The tugs used in the Best Buy hospitals are Lansing Bagnall towtractors, similar to the ones seen on British Rail premises. For the purposes of distributing and collecting goods (not meals) these tugs were originally intended to tow, in train, a number of trailers having one basic superstructure. These trailers are described in a Supplement to the planning policies and an article by Sangster.[1] In addition to the basic trailer, flat trailers were to be used for the occasional bulky item. In



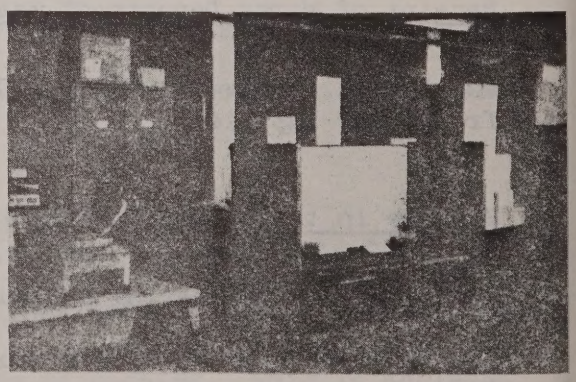
Towtractors or 'tugs' at the Re-charging Bay



The original trailers, having one basic superstructure



'Cage' type trailers with wire-mesh sides



The West Suffolk Store trailer

practice, the basic trailer, while satisfactory for linen, was found to be less suitable for other commodities[1] and both hospitals have now brought in some large trailers with wire mesh sides. Furthermore, the Supplies staff at the West Suffolk have adapted a trailer which they brought with them from the old hospital site.

Both hospitals have had experience of tugs breaking down (one breakdown a month is the estimate at the West Suffolk) but respondents at both hospitals seem to attribute this to the fact that each hospital's quota of three tugs is in constant use.

At both hospitals the tugs are maintained on the basis of a 'planned preventive' system, although at Frimley it was mentioned that the manufacturers have occasionally to be called in to correct faults in the electric circuit.

2 Damage to the hospital fabric caused by tugs and trailers

It was a requirement that both tugs and trailers should be buffered, to minimise their potential for causing damage in the event of collision with animate or inanimate objects. It was also a requirement that the tugs should not exceed a speed of 4 mph on the level. A recent report on damage caused to hospital fabric by mobile equipment states that 'mechanised tugs will inevitably cause damage unless fitted with speed governors'.[2] Both Frimley and the West Suffolk have had to abandon the use of speed governors on their tugs; at

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1 Sangster, J A, The electric tug goods distribution system at Frimley Park and West Suffolk Hospitals, Guide to Equipment and Supplies (1975), November, 446-448

2 Damage in Health Buildings Resulting from Mobile Equipment, DHSS (Supply Division) Memorandum.

Frimley, specifically because attempts to regulate the speed restricted pulling performance on the ramp. Here there is some concern about the resulting speed potential of the tugs, but damage to the hospital fabric is attributed to the hand-pulled meal trolleys as well as the tugs and trailers.

The visitor to either Frimley or the West Suffolk is not assailed by the evidence of damage caused by mobile equipment on the Hospital Street, but discussions with hospital staff reveal that it does occur. Particularly vulnerable are objects, such as radiators, which are not flush with the wall, and door frames.

At Frimley, one respondent felt that a number of the incidents of damage were caused by the necessity to pull the tugs over to one side when confronting other traffic in the Street. Particularly hazardous are the times when a tug driver confronts an in-patient bed being moved between the wards and departments.

Only detailed comparative studies could reveal the different potentials of hand-pulled and mechanised equipment to cause damage. It is accepted that speed increases the force of a collision, but the difficulty of steering many hand-pushed or pulled trolleys also takes its toll on the hospital fabric.[1] At the West Suffolk it is felt that the damage caused specifically by tugs and trailers has not been over severe. At Frimley, two respondents seemed not so sure.

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1 Damage in Health Buildings Resulting from Mobile Equipment, DHSS (Supply Division) Memorandum

4.3 The programming of tugs and trailers

It was the aim of the planners of Best Buy that the tug and trailer system would operate efficiently and economically to distribute goods within the hospital. Not only was the system to take account of outside deliveries to the hospital and of priority deliveries within, but it was also hoped that it could take account of the need to keep down traffic, in certain areas of the hospital, during busy working periods. In order to achieve this co-ordination, it was advocated that the programming of tugs should be organised centrally.

In practice, such co-ordination happens at neither hospital. The extent of de-centralisation of management, with respect to the movement of tugs, will become apparent during the course of the report. At both hospitals, the delivery of linen, collection of returns and disposal of waste is programmed independently of the delivery of items held in the Main Stores or off-loaded at the Main Stores Loading Bay. At Frimley, tug journeys from the Main Store follow no programme. The major causal factors of this situation are undoubtedly the unpredictability of deliveries from outside suppliers and the demands of the internal supply system. At the West Suffolk there is a programme of journeys from the Main Store, but it is both flexible and full. It has thus been recognised, at both hospitals, that there is a need for Stores staff to have access to a tug and trailers at all hours of the day; hence the lack of central co-ordination for each hospital's quota of tugs.

At neither hospital was it considered a particular problem that tugs might be on the Hospital Street at any time of day. At the West Suffolk, tugs are not used between 9.00 p.m. and 7.30 a.m., but, during the day, the traffic problem is considered of secondary

importance to the function of meeting supply and disposal needs as quickly as possible. At Frimley, attempts are made to restrict tug traffic during peak visiting times (visiting hours are fairly free) and the last tug rounds are made at 9.00 p.m. Here, the opinion is that no time is better than any other to have a tug on the Hospital Street.

It is outside the scope of this project to study, in detail, traffic flow on the Hospital Street. That congestion does sometimes occur is evidenced by the comment made at Frimley about the problem of tugs meeting beds in transit between wards and departments. However, during the two-week study period in each hospital, it was rare to find the Streets crowded. Where congestion was observed, it was generally in those parts of the Hospital Street where the width had become restricted by the parking of bulky items outside a department - sometimes by necessity, it must be said.

Summary:

Use of tugs and trailers

In each hospital the tugs are used constantly although breakdowns do sometimes occur.

Trailers now in use are more varied than the original, which was not found suitable for the delivery of all types of commodity.

Damage to the hospital fabric

In each hospital some damage has been caused to the fabric in the Hospital Street: this is attributed not only to tugs and trailers but also to other mobile equipment. On the basis of this study it cannot be judged whether incidents of damage are high.

The confrontation of differing types of mobile equipment is alleged to be partly to blame for damage caused on the Hospital Street.

In some areas of the Hospital Street the width has become reduced by

the necessity to park items of equipment.

Use of speed governors on the tugs has been limited by problems of pull on the ramps.

Programming of tugs

The centralised programming of tugs to minimise traffic on the Street has not proved as important as keeping up with deliveries and collections.

SECTION 5 : THE DISTRIBUTION OF COMMODITIES FROM THE SUPPLY CENTRE TO THE WARDS AND DEPARTMENTS

5.1 Management

Mention has already been made of the fact that management of the tug system differs from the centrally co-ordinated system envisaged by the planners.

Planning policy suggested that the Portering Services Manager would programme all delivery and collection rounds. However, at Frimley, porters are seconded to Stores and to Pharmacy and the organisation of their working day is no longer directly controlled by the Portering Services Manager. At the West Suffolk Hospital, porters are seconded to Stores and to the CSSD substore and the programming of their work is similarly separate from that of the main portering 'pool'.

It was apparent from the planning policies that the arrangements for delivery of supplies to wards and departments would depend, to some extent, on the commodity involved. In practice, this is probably more true than originally anticipated, thus the following Section will deal with the distribution of supplies, broadly speaking, by categories of commodity. Present systems will be compared with those planned, but staff opinion of the supply system will be discussed more fully in a subsequent section, since staff were generally asked to express their views of the system, as a whole, rather than in relation to the distribution of specific commodities.

The categorisation of commodities into linen, sterile supplies, stores, pharmaceuticals and minor provisions (foodstuffs) is a natural one because of their distinct administration; the further categorisation

of 'stores' into medical and surgical sundries, dressings, cleaning materials, hardware, stationery and disposables, follows a pattern brought out in discussions with Supplies staff, but also conforms closely to the classification adopted by the National Coal Board Operational Research team for their recommendations for patterns of goods distribution in hospitals.[1]

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1 National Coal Board Operational Research Executive, Report on Supplies Within a New District General Hospital (O.R. 870/1/2) DHSS, March 1970

5.2 Distribution of supplies to wards and departments at Frimley Park Hospital

LINEN

Original planning policy

When the planning policies were originally conceived it was envisaged that linen would be received in a form suitable for direct distribution to users and that it would be supplied to the wards using 'pass-through' cupboards (i.e. cupboards with doors to the Hospital Street on the outside and the ward on the inside).

Divergence from the plan

In the final design of Best Buy, however, most of the pass-through cupboards were omitted from the wards, since experience at Greenwich District Hospital had shown that such cupboards were not used, mainly because of problems of security.

Mention has already been made of the problem caused by the expectation that linen would be received in a form ready for direct distribution. This had obviously become apparent before the hospital opened because a 'supplement' to the planning policy, printed in 1973, was much more vague about arrangements for linen receipt. However, the same policy was detailed in respect to the way that linen was to be distributed to wards and stored on its arrival (in the absence, remember, of the pass-through cupboards of the original plans):-

Revised planning policy

Each ward was to be equipped with a 'maxi' towable trolley - the trailer with the superstructure as planned (p. 94). At a regular time each day this was to be collected by a tug driver and taken, in train, to the Linen reception area in the Supply Centre, where it

would be re-stocked to an agreed level and returned immediately to the ward. On the ward two smaller trolleys could be 'topped-up' as required.

No linen was to be ward-designated, so that interchange in an emergency could be easily achieved, though certain special items, such as theatre linen would be designated.

Current pattern of distribution

Many of the wards and departments have one or two of the linen trolleys described: the exceptions are the Operating Department, Special Care Baby Unit, Psychiatry, X-ray, Physical Medicine, Outpatients' Department and Pathology, plus, of course, Pharmacy and the Catering, Education and Administration departments. The exceptions occur because the trailers, or maxi-trolleys, are intended for linen with a relatively high rate of turnover which has to be supplied in quite large quantities, i.e. they are more appropriate for bed linen on wards than for, e.g., towels used in the Physical Medicine Department.

The maxi-trolleys are held in the link corridors for each ward (fig. 11). In the morning, a tug (no. 1 on the programme, p. 107) driven by a porter from the General Pool, collects four maxi-trolleys and takes them to the Linen Room. Here they are topped-up, theoretically, to a level agreed for each individual ward (though, in practice, there is not sufficient linen to make this possible). Meanwhile, the tug driver collects another four maxi-trolleys, returns these to the Linen Room and picks up two trolleys from the first group which are now filled ready for delivery to the wards.

The linen trolleys are dealt with in sequence, i.e. ward F1, followed by F2, going clockwise round the building. The exception to this

rule is that the very first trolleys to be collected are those for the Post Natal ward and the Central Delivery Suite and for the Day and Emergency; while theatre linen, which is bagged, is also among the first to be delivered. The clockwise direction of travel was recommended in the policy, presumably to avoid collisions in the Hospital Street, though it also means that pedestrians do not have to be constantly looking in both directions.

The planning policies make no specific statement concerning linen delivery to departments not equipped with linen trolleys although it is mentioned that there will be a need for local commissioning teams to assess needs and to arrange storage and delivery accordingly (Supplement to IID, p. 4). In line with the concept of rationalising the distribution of supplies, one imagines that the planners would have expected such deliveries to be programmed to fit in with the delivery of other supplies carried on tug and trailers. In practice such deliveries (except to Theatre) are made by the Linen Room staff who push an ordinary trolley up and down the ramps and round the Hospital Street.* This applies to linen requirements for the Psychiatric Unit, X-ray, Special Care Baby Unit and Operating Department. Pharmacy has no linen delivery as such, because the Housekeepers see to changing towels, as necessary. The linen in the Physical Medicine Department is changed twice weekly by housekeepers from the Accident and Emergency Department.

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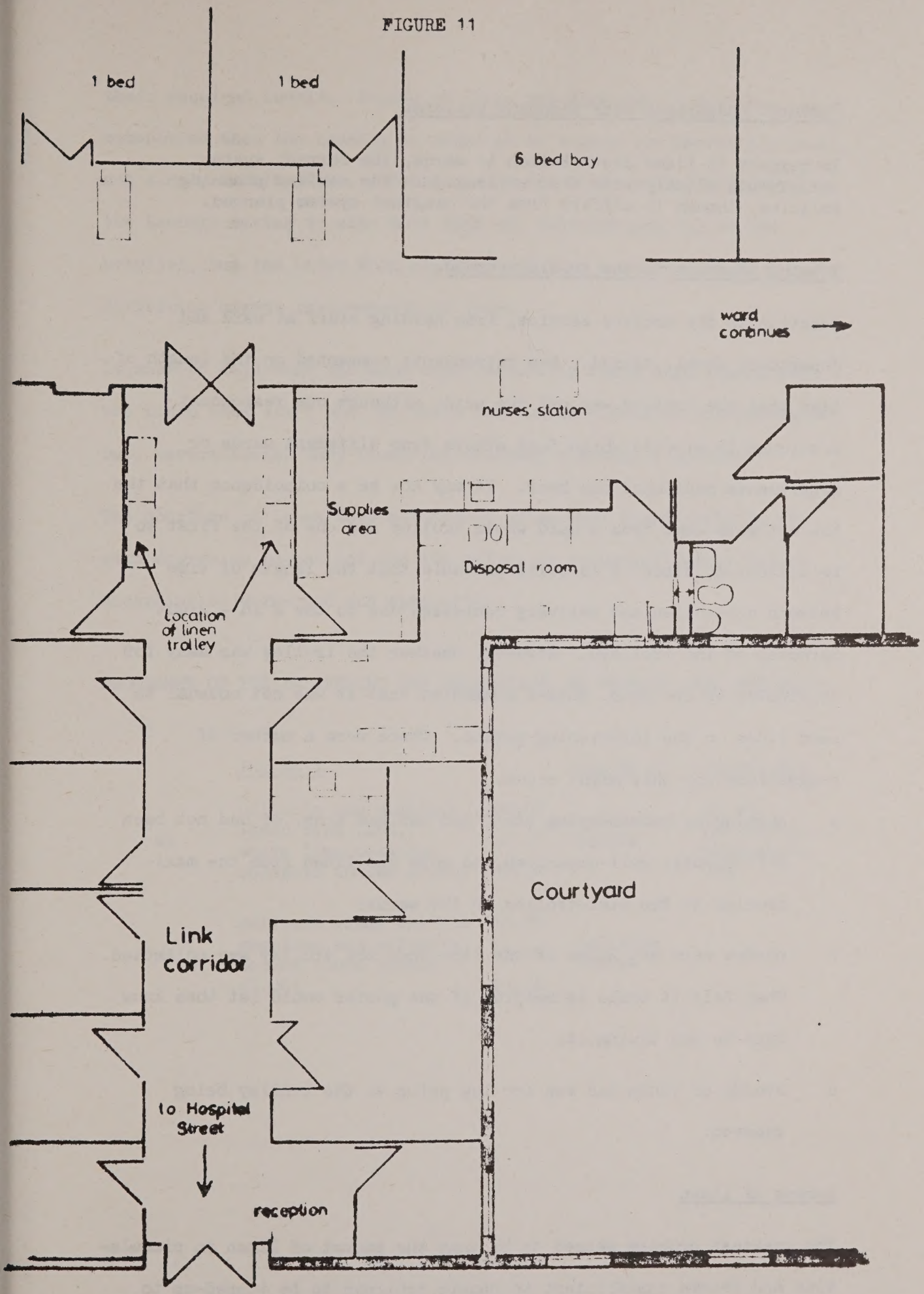
* Representatives of those responsible for the planning of Best Buy express some concern about the safety of hand-pushed trolleys on the ramp (see p. 128).

FIGURE 11



GENERAL ACUTE WARD:
SUPPLY AND DISPOSAL AREAS

Summary: comparison with planning policies

In respect to linen distribution to wards, the current system corresponds closely with that envisaged in the revised planning policies, though it differs from the original system planned.

Nursing reaction to the trolley service

Reaction to the trolley service, from nursing staff at ward and department level, varied. Few respondents commented on the length of time that the trolley was off the ward, although one respondent mentioned 15 minutes while four others from different wards or departments mentioned one hour. It may not be a coincidence that the low estimate came from a ward whose trolley was one of the first to be collected, since it is quite probable that the length of time between collection and delivery increases due to the 4 in - 2 out turnover of the trolleys. However, whether the trolley was away for 15 minutes or one hour, nurses commented that it was not unusual to need linen in the intervening period. There were a number of suggestions why this might occur.

a nursing or housekeeping staff had not had time, or had not been sufficiently well-organised, to move the linen from the maxi-trolley to the mini-trolley on the wards;

b nurses were not aware of the time when the trolley was collected. They felt it would be helpful if the porter could let them know when he was taking it;

c stocks of linen had run too low prior to the trolley being removed.

Losses of linen

The greatest problem seemed to be that the amount of linen in circulation had become insufficient to enable trolleys to be topped-up to

their required levels. Losses of linen run high and it must be remembered that the Laundry is required to supply two Health Districts, not simply Frimley Park. During one of the study weeks, not only was the Laundry having to make more than one delivery per day to the hospital, but the Linen Room staff were having a run to and from wards delivering urgent requirements of linen.

It must be said that the ward staff generally had a high regard for the Linen Room staff who 'do their best under difficult circumstances' but, nevertheless, they found the constant shortage a problem.

The shortage of linen does not affect outpatient departments to the same degree as in-patient and its affect on in-patient areas varies according to work-load and specialty.

PROGRAMME OF TUG DELIVERIES AND COLLECTIONS AT FRIMLEY PARK HOSPITAL

	Tug No 1		Tug No 2	Stores Tug
am	collects and delivers linen bins (and, where time permits, collects soiled linen)	08.00 10.00 12.00	collects refuse	ad hoc deliveries throughout day
pm	delivers clean sterile supplies and collects soiled linen (until 17.00)	15.00 18.00 21.00	collects refuse	"

STERILE SUPPLIES

Planning policy

Sterile supplies were to be received in a form ready for direct distribution to wards and departments from the reception area. (Policy IID, p. 5)

Sterile packs for theatre were to be processed by the Theatre Sterile Supplies Unit (TSSU).

Current pattern of distribution

The CSSD at Farnham supplies sterile packs in a form ready for direct distribution to wards and departments.

Within the hospital there is a separate TSSU which processes packs specifically for use in the operating theatres. The CSSD supplies all patient-drapes, ready-folded, for TSSU to put into their theatre packs. It also sends them gown packs and some bandage packs.

The allocation of sterile supplies to each ward and department was agreed by nursing officers in collaboration with the CSSD manager, prior to the opening of the hospital. Between them they worked out a generous figure for the daily requirement of sterile packs and multiplied it by three to arrive at a useful working level to be held on the shelves. The CSSD manager feels that this, in fact, probably represents 3-4 days' supply.

Packs are replaced on the basis of a return ticket system. When the pack is used, the ticket, which details the type of pack and the number of the ward or department, is sent back to CSSD in a ticket box, together with the bag of dirty instruments.

Only when the ticket is received will the pack be automatically replaced. This system serves at least three useful functions,

1) it means that when CSSD receives the 'dirties' they can probably replace them the same day, because they do not have to stop to count up the instruments;

2) it means that the ward or department does not have to do any time-consuming requisitioning (in line with Best Buy planning ideals);

3) it helps to promote a sense of responsibility amongst ward and department staff and thus, perhaps, goes some way to controlling losses.

If wards lose their tickets, replacement packs will only be supplied against the signature of a Sister and Nursing Officer. If additional packs are required, the request has to be referred up through the nursing hierarchy.

Some wards and departments make regular checks with CSSD to ensure that their allocations of tickets and instruments remain complete.

Allocations vary considerably between wards and departments (examples are given in Appendix III) and they have been updated as experience of quantities used develops. If CSSD find that they are receiving large numbers of date-expired packs, they will query with the wards and departments concerned whether the supply of those particular packs is necessary.

The supply of sterile packs to the Outpatients' Department differs slightly from the rest. Although the return-ticket system exists for their general stock, which has a regular turnover, an alternative system had to be found for supplying the specialist clinics, since

these create a demand for particular packs on particular days. Thus the Outpatients' Department receives each clinic stock the day prior to the timetabled clinic. These packs have tickets with red stripes. When CSSD receive these, they know that the pack does not need immediate replacement.

Central Treatment holds a 'buffer' stock of sterile supplies for use by other wards or departments in an emergency. These packs have both an ordinary and a red-stripe ticket. When Central Treatment issue the pack to a ward they send the plain ticket to CSSD and the pack is replaced. The red-stripe ticket, which may not be received by CSSD until some time later, indicates that the pack has been used.

Sterile supplies are received at Loading Bay B, early in the afternoon. They are received in bags and are loaded onto a yellow wire-mesh-sided trailer to be delivered by a tug (No 1 on the Programme, p. 107) to the wards and departments.

Summary comparison with planning policies

This system of sterile supply delivery corresponds with the planning policies. It seems to be as close as one could get to combining the principles of 'direct-to-user' supply with the idea, inherent in 'topping-up', that the amount of commodities supplied should be sufficient to replace the quantity that has been used. In terms of the type and number of packs supplied it does not have quite the same effect as topping-up, however, because some items will always be in the process of circulation. It has implications for the time of nursing or housekeeping staff since it is they, rather than the porters, who are responsible for unpacking the bags and placing the supplies on the shelves.

In terms of space at ward and department level, the system probably has similar implications to those of a topping-up service because there is always the necessity to have adequate supplies for weekends and Bank holidays.

Reaction of nursing staff to storage and supply of sterile packs

On the wards, the sterile packs are stored in plastic 'Fix-system' boxes on open metal shelves in the Supplies areas (illustrated in fig. 11).

One or two nurses, when asked about adequacy of storage space, commented specifically that they liked this method of storage because items were ready to hand, though the remark was made on one ward that it was difficult to locate supplies on these shelves because the boxes were constantly being moved around! This seems to be rather more a problem of ward discipline than of design.

There were one or two places in the hospital where Supplies areas were under heavy pressure; the Central Treatment Supply Room is, perhaps the most noteable, but storage in the Operating Department and ITU is also crowded.

There was little genuine dissatisfaction with the delivery of sterile supplies. One or two wards and departments commented that they were always running short and, although they recognised the fault was sometimes at their end due to loss of tickets, they also felt that some mistakes were made by CSSD. On the other hand, those who kept in direct contact with CSSD considered it to be a most helpful department.

Losses of sterile supplies

As with linen, District losses of instruments for sterile packs tend to run high: 2,000 stitch scissors per annum, for example, or an estimated loss per month of £500-£700 across the total range of instruments. However, these losses, though obviously a grave problem, are easier to calculate and to compensate for than losses of linen so that the CSSD is still able to meet the ward and department requirements

for stock.

STORES

Planning policies

Those items designated 'Stores' (p. 101) were among the commodities which were intended to be supplied on the basis of a daily (or twice daily) topping-up service to local Supply points.

Current pattern of distribution

At Frimley, medical and surgical sundries, dressings, cleaning materials and stationery are requisitioned from the Main Stores by the staff of individual wards and departments.

Requisitioning is worked on a fortnightly basis for each user department, except for Theatres, Intensive Therapy Unit, Accident and Emergency Department, Maternity and Central Treatment, where staff are able to send in weekly requisitions for medical and surgical sundries and dressings.

For the purpose of fortnightly requisitioning the hospital is divided into two groups, basically ground floor and first floor, and each group submits its requisitions on a different week so that the workload for the Main Store is spread over the two weeks. Requisitions are sent in on a Monday morning and they are usually cleared by Thursday afternoon.

The system of delivery is organised according to the way in which the orders are made up by the Stores staff, though Theatres and Intensive Care Unit usually come first on the rounds. Requisitions are made up as they arrive, so it is largely a case of 'first come - first served'. Orders are delivered on a tug pulling an open trailer.

There are several requisition forms in circulation; some are pre-printed and coded for analysis by computer (on a Regional basis), while others are blank forms. Both types of form are used by wards and departments for ordering 'stock' items, while only a blank form would be used for ordering 'non-stock' i.e. commodities not held at stores within the Area.

Currently, pre-printed forms are used only for cleaning materials, dressings and a certain number of disposable items: syringes, needles, gloves (see Appendix IV).

Throughout the hospital, housekeeping staff are responsible for requisitioning cleaning materials. The Housekeeping Manager has put a limit on the amount of cleaning items needed on each ward and department, so at the end of a fortnight, the Housekeeper needs only to check her stock and to put in a requisition bringing quantities up to the maximum.

Responsibility for the requisitioning of other commodities varies. In one or two wards and departments the housekeepers do all the requisitioning but, in the majority, qualified nursing staff are responsible for requisitioning the medical and surgical sundries, if not stationery as well. For these commodities there are no prescribed requirements, thus staff order according to their experience of the speed with which commodities are used.

Summary comparison with planning policies

The system of requisitioning is obviously a long way from the planned policy of 'topping-up'. But for a variety of reasons the hospital has felt unable to implement the topping-up service. In the first place, there was no way of knowing, when staff moved to the hospital, how great the supply demands of each department would be. Amounts could not be based on past practice since there were a number of differences at the new hospital such as the centralising of in-patient treatment.

Additionally, nursing staff feel that demands fluctuate too much to predict levels of consumption (though they must use some method for assessing how much to order for a fortnight).

Apart from working out quantities, it would have been necessary to find some way of indicating those levels to the delivery porters, and it would have been extremely time-consuming for the porter to assess the levels of all commodities supplied to all wards and departments. Indeed, this is a major objection of the Stores organisation, for they envisage that a topping-up service would require higher levels of staffing. For a store which deals with the distribution of commodities to other facilities in the District, as well as the hospital, it is important that the distribution of supplies to wards and departments should be completed in the quickest and most efficient way possible. Thus one can sympathise with the rejection of 'topping-up' as a system, though it is unfortunate that it leaves nursing staff with the traditional, time-consuming responsibility for requisitioning.

It is possible that part of the objection to topping-up is rooted in a reluctance to break with tradition, but scepticism about the practicality of employing topping-up as a system will not be allayed until it is proven to work in practice. If planners are to continue to suggest this as a method of internal distribution of supplies it might be worthwhile to carry out some research to ascertain whether any hospital is using the system extensively* and if so, whether the hospital users find the system satisfactory.

Implications of the divergence from planning policy

The fact that wards and departments hold, in theory, at least a fortnight's stock has implications for the pressure on storage space at the local level. To the observer it appeared that the shelves in the Supplies areas at Frimley were more full than those at the West Suffolk Hospital, where a weekly requisition is in operation. However, investigation of this matter is outside the scope of the present study. Such an investigation would be complicated by the fact that what represents a fortnight's supply for a particular type of ward at Frimley may not represent a fortnight's supply for the same ward at the West Suffolk, because not only does work-load differ but so too does the

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* It is known that some hospitals use a partial topping-up service, i.e. topping-up related to one or two commodities.[1] It is medical and surgical sundries that seem to pose a problem. The NCB team suggest that, of these commodities, only regularly used items should be topped-up; less frequently used could be requisitioned.[2]

1 Topping up of Indenting for Routine Supplies to Wards and Departments, A Note on a Meeting Held at the Scottish Hospital Centre, October, 1967.

2 National Coal Board, Operational Research Executive, Report on Supplies within a New District General Hospital, DHSS, 1970.

approach to treatment of patients plus, probably, the attitude towards the use of commodities.

It is probably the case that there is a good deal more than one fortnight's stock of many of the commodities held on the shelves at Frimley. This will arise for a number of reasons, among them,

a that some items are supplied in boxes of x number, which may last some wards and departments considerably more than one fortnight,

b unless nursing staff over-estimate their needs they will continually be faced with the problem of running short because there is, as yet, no adequate method for predicting fluctuations in demand.

Another factor, having implications for the pressure on storage spaces at ward level, results from the availability of new products on the market which supercede those in use: this can lead to the redundancy of a number of items on the shelves. There is a system for returning items of this nature to the Main Stores, but few wards seemed to know of this. It was not unusual to hear of the difficulties of getting rid of commodities that were taking up valuable space on the shelves.

Reaction to the current system of Stores distribution

No-one would argue that the system of requisitioning is infallible. Wards and departments do run short of commodities, either because they under-estimate demand or simply because they forget to place an order. Furthermore, the Main Stores is not always able to meet requisitions at the time they are made due, perhaps, to unexpected demand, the non-availability of goods or the inability of a firm to deliver on time.

The Main Store is open from 8.00 to 5.00, Monday to Friday, and from 8.00 to 10.00 a.m. on Saturday. During those times hospital staff can and do place orders for items which they require before the next date for requisitioning. At other times, genuine emergencies are catered for by a senior member of the hospital staff requesting that the Supplies Assistant should return to the hospital to issue the goods.

Reaction to the service provided by the Stores organisation varied. While the responsibility for requisitioning lies with the user, of course, the Stores will be sheltered from some of the criticisms which

could be levelled against a topping-up service. But most respondents felt that the Stores organisation went out of their way to be helpful and one may assume that, where there were difficulties, it was largely due to a clash of personalities.

There were, however, complaints about the non-availability of items, which seems to result from the fact that a large number of items used in the hospital are 'non-stock'. This is a function of the wider organisation of Supplies.

There is no doubt that requisitioning is time-consuming for nursing staff and, even where the task is undertaken by housekeeping staff, it is done at the expense of other duties.

Bulk disposable bed-pans, urinals, sputum pots etc. are delivered on a form of topping-up basis. On Friday of each week, the Stores staff go round the wards asking what each one needs; then from 1.00 to 1.30 p.m. a tug, pulling one or two trailers, goes round leaving complete boxes of these disposables. The boxes are off-loaded in the Disposal rooms, opening off the link corridors. The tug does not enter the link corridor, however.

Each provision of disposables generally lasts until Tuesday; after that, wards telephone Stores as new stocks are required.

The boxes of disposables are large and take up a considerable amount of floor-space in the Disposal rooms. Though they will just fit under bench units, there are times, on some wards, when the boxes, together with bags of instruments, laundry and waste awaiting collection cause congestion around the outside door of the Disposal room. This may result in the necessity to prop the door open so that porters can retrieve the rubbish and returnable items. The tendency to place boxes

in this area of the disposal room probably results from a desire to keep the work-space clear.

It would be impractical for Stores to split boxes, in order to provide wards with smaller quantities of disposables, since it is necessary for them to distribute the boxes as rapidly as possible because they take up so much space in the Main Store.

PHARMACEUTICALS

Planning policy

'To enable the Chief Pharmacist to discharge his particular responsibilities and to ensure that dangerous and addictive drugs are always safeguarded against theft or misuse, pharmaceuticals need a well-controlled system of internal distribution' (policy IID, p. 12). The planners therefore proposed that deliveries of drugs and other pharmaceuticals would be kept separate from other deliveries and that each ward and main user department would have their own lockable hamper in which the pharmaceuticals could be transported.

The planners envisaged that one or two porters would be seconded to the Pharmacy. Each day a porter would take a tug and trailer(s) to the Issue Lobby of the Pharmacy where he would load up the already filled hampers before commencing his round.

At ward or department level a trained nurse would be responsible for unloading the hamper, which would then rest in the Disposal room.

Later in the day the Pharmacy porter would take the tug round to collect up the empty hampers and the requisitions, for the next issue from Pharmacy.

Current pattern of distribution

Each of the user wards or departments does have its own lockable drugs hamper, though the Operating Department now has six (one for each Theatre) rather than one for the whole department, as originally planned.

One porter is seconded to the Pharmacy. He delivers the drugs hampers to wards and departments using a manual palette trolley (which can accommodate ten hampers) rather than a tug and trailer. At one time the Pharmacy was allocated its own tug but mechanised delivery was found to be too slow! The logic behind this comment is quite simple because, if one man is to do the driving as well as the unloading, then the time he spends immobilising the tug (which he should do if he has to leave it unattended) and getting in and out of the driving seat, at each stop, is excess to the time spent unloading an ordinary trolley.

The unlocked drugs hampers, with the requisitions inside them are picked up first thing each morning and taken to the Pharmacy Issue Lobby. Here they are filled and locked by the Pharmacy staff and then the Pharmacy porter redistributes them to the appropriate wards and departments. These deliveries take place throughout the morning and further deliveries are made only to the Operating Department in the afternoon.

Dangerous drugs are carried only three at a time and must be signed for when received. Intravenous fluids are delivered direct to the wards from the Pharmacy Store in the Supply Centre, as there is no room for them in the Dispensary. A small stock is held in the Issue Lobby for emergency supplies.

Radioactive materials, used in the X-ray Department, are ordered by

the department direct from the Area headquarters at Guildford.

The Pharmacy service operates daily, except Sunday, for most wards and departments. The Psychiatry Department, however, receives deliveries only twice per week and other departments such as Pathology would only place requisitions when necessary.

Staff at the wards and departments invariably claimed that the drugs hampers were unloaded by trained nursing staff except, of course, in departments such as Physical Medicine and Pathology where there are no nursing staff.

Several respondents mentioned that a receipt was signed, on the arrival of the drugs hamper, though the contents might not be checked against the requisition until later in the day.

On wards, the drug boxes tend to be left in the Supply areas, when they are emptied, rather than in Disposal rooms. Whether this is an intentional divergence from policy was not asked, but it is reasonable to assume that it serves a useful purpose: if the Pharmacy porter has to come into the Supply area the nursing staff are likely to see him and, if they have not already completed the requisition, will be able to 'catch' him before he leaves. Placing the requisitions in the boxes means that the Pharmacy staff do not have to spend time 'marrying' loose requisition sheets with boxes.

Storage of drugs on wards

Each ward is furnished with a cupboard for controlled drugs plus a cupboard for non-scheduled items and a refrigerator. These are located behind the nurses' station. In addition, a drugs trolley contains drugs in current use for patients; between drugs rounds

this is padlocked to the wall close to the nurses' station.

The Pharmacy holds a list of the items held on each ward. Once a week technicians check the stock on each ward and will remove items that have passed their expiry date, or have been stored in the wrong condition. Once a month a Pharmacist goes to double-check.

The issue of drugs or pharmaceuticals outside normal delivery times

The question of pharmaceuticals needed for night time emergencies has already been covered (p. 60). At other times, additional pharmaceuticals might be collected by nursing or housekeeping staff (although they would only be issued against an authorised signature).

Summary comparison with the planning policy

The current system of distributing drug hampers corresponds very closely with that planned, except that there is no use made of tug or trailers.

However, the District Pharmaceutical Officer does not feel it is the most efficient service that could be operated, particularly in terms of Pharmacy staff deployment.

He argues that, in this age of freezers, each ward could carry large enough quantities of pharmaceuticals to reduce supplies to perhaps twice per week, freeing his staff to provide a better service in other ways. At the moment, apparently, it is not unknown for the Pharmacy to receive an empty hamper with a requisition for one item!

Furthermore, he argues, if each ward stored a larger supply of pharmaceuticals, the possibility of bulk-buying would be increased, with consequent savings for the Pharmacy.

Staff reaction to the system of pharmaceutical distribution

Respondents were, almost without exception, full of admiration for the service provided by the Pharmacy. Of 18 people, only one had a complaint to make and that was that, on a Monday, the drugs hamper sometimes returned too late for the morning drugs round. However, if this ward relied on the drugs hamper to arrive before the drugs rounds, it may be that others did not because, on at least seven other wards,

the drugs hamper was not expected before 11.00 a.m. which was the time of the drugs round in question.

If the respondents interviewed were typical, the Pharmacy can be proud of the service it offers. However, is the daily ordering of pharmaceuticals really necessary? It might be worthwhile considering, as the District Pharmaceutical Officer suggested, that, from the point of view of the Pharmacy itself there is room for improving the efficiency of the service by reducing demands on staff time and increasing the Pharmacy's ability to buy in bulk.

Medical gas cylinders

It has already been mentioned that the responsibility for distribution of medical gas cylinders has passed from the Pharmacy Department to the Portering Services.

The cylinders are delivered to wards and departments as and when required. The procedure is simply for a member of the ward staff to telephone the Portering Services and request a replacement cylinder. On the wards, the porters generally connect up the new cylinder and remove the empty one. In some of the departments, however, reserve stocks are kept in hand and the porters are not necessarily required to connect up the supply. This would be true in areas such as the Central Delivery Suite and Operating Department and also in the Accident and Emergency Department, where cylinders are stored for use by the ambulance men.

Staff seemed to be satisfied with the medical gases service provided by the porters.

Storage of gas cylinders on the wards and departments

Portable gas appliances, on wards, seemed seldom to number more than

two or three and few respondents felt that they constituted a storage problem, although on the Childrens' Ward it was noted that a hyper-active toddler had succeeded in pulling one of these heavy appliances on top of himself.

There is certainly a conflict between ensuring that the appliances are safe from mis-use and, at the same time, easily accessible in an emergency. Indeed the view held by staff on the Childrens' Ward was that there should be piped oxygen and suction facilities at each bed-head, the latter being particularly important since suction is needed fast when children commence 'fitting' - too fast for staff to be able to move beds around.

Although it was not claimed to be a serious problem, there are some departments, holding reserve stocks of cylinders, where the provision of special storage facilities would have been an advantage. Since the opening of the hospital, a special rack has been made for the Accident and Emergency Department. In the Central Delivery Suite, however, cylinders lie on the floor under a bench in the Supply Room. Although they are out of the way here, it is not an ideal form of storage because they are liable to roll about and, being heavy, could well be a hazard to staff toes, quite apart from the fact that they might damage bench supports or, indeed, suffer damage themselves.

On the subject of gas cylinders, mention should be made of the fact that, in formulating the design of the Pathology Department, the Best Buy planners had not anticipated that space would be required for the storage of gas cylinders used for running various items of equipment. The ultimate solution to this problem - the building of storage cupboards out into the courtyard - was therefore inevitably an ad hoc one.

MINOR PROVISIONS (FOODSTUFFS)

Planning policy

It was envisaged that, in addition to routine meal and beverage services (for details of these see p. 154) there would be an occasional need for special beverages on the ward. These could be prepared on the standard 'beverage unit'. The only mention of arrangements to supply commodoties to these units was that they would be the responsibility of the Catering Officer. However, there was also the suggestion that some goods (dry goods) might only need to be supplied weekly, while fresh milk might be supplied daily.

Current pattern of distribution

The Stores porter delivers the milk from loading bay to kitchen and from there most in-patient areas are supplied with a regular daily quota. Originally this was all bottled milk. Now one or two wards are being supplied with large packs of milk, on an experimental basis, to try to cut down the number of bottles in use. The quantity of milk bottles for return has been causing the hospital some problems (see Section 7). In fact this problem had been foreseen by the Best Buy planners who concluded that, where fresh milk was required, disposable containers would present less problems than bottles.[1]

To meet the aims of the planning policy for catering, non in-patient areas were intended to receive neither milk nor any other kind of minor provisions. This was because patients were to make use of the Snack Bar, while staff could use any of the facilities provided for

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1 Evaluation of Planning and Design, Report BB/3, DHSS, 1970

them. However, since the hospital opened, the Accident and Emergency Department has argued a case for having some facility to provide patients' beverages because some of the patients need liquids and it is impractical to send staff to the Snack Bar to stand in queue. They therefore now receive a milk delivery of a couple of pints per day plus some provisions for making hot beverages. Furthermore, the Physical Medicine Department obtained the right to have a staff beverage facility in their staff room: they now buy milk from the Snack Bar, which reserves some pints for them.

Most of the wards hold a few items for making beverages. Additionally they hold sauce portions and condiments to serve with the meals. Some items are 'topped-up' by the Catering staff, once a week, others are requisitioned (also once per week) via the Catering Office.

Most supplies are kept small, presumably to prevent abuse of the service by either staff or patients. However, staff on at least one department have been granted permission to use the supplies for staff coffee and tea, because it is not always possible for them to take a tea-break away from the department. They have made arrangements to pay the Catering Office for this facility.

In addition to supplies for beverages, the Operating Department has a special daily delivery from the kitchen to top-up supplies of bacon, eggs, bread, butter, etc. for consumption by the night staff. The Intensive Therapy Unit is also permitted to send for eggs, if required, and they receive bread and butter against a weekly requisition. This is another divergence from the planned Catering policy. It was not intended that the Intensive Therapy Unit should have facilities to provide snacks for their patients, but the routine meal service does not always arrive at an appropriate time for a patient who may be very

ill and, as appetites are generally small, it was conceded that it would be useful if light snacks could be prepared by nursing or housekeeping staff.

Baby feeds are supplied to the appropriate in-patient areas; for example, the Special Care Baby Unit receives pre-packed milk, on a daily basis.

All provisions are, as envisaged, the responsibility of the Catering Manager.

Summary comparison with planned policy

Since the planning policy for supply of minor provisions was not detailed, there is little room for comparison between that and current practice. However, in investigating the supply of provisions, it has become apparent that there are some areas where planned policy for catering has been rejected. Perhaps the department where this has had most impact is the Accident and Emergency Department where, in order to provide a 'beverage unit' it has been necessary to 'create' space. This has been achieved by placing a trolley, laden with electric kettle and provisions, in the doctor's office. This means that the use of the room for private consultations with patients has become rather limited.

The routine supply of meals and beverages is discussed in Section 6.

SUMMARY TABLE Internal distribution of commodities to wards and departments at Frimley Park Hospital : a comparison with planned policy.

Commodity	Delivery service organised by: Planned situation	Current situation	Type of service: Planned situation	Current situation	Frequency: Planned	Current
Linen (bed linen and/ or towels)	General Portering	General Portering Linen Room or House-keeping staff	Originally direct-to-user from off-site. Subsequently policy became less precise over this issue. However, it was stated that trolleys should be stocked in Supply Centre.	Trolleys are topped-up in Supply Centre for most wards and AED. Some linen is delivered in bags (Theatre) Some linen is topped-up at the department.	Daily	Daily (Mon-Fri) Periodically
Sterile supplies	"	General Portering Services	Direct-to-user	Direct-to-user 'One-for-one' exchange	Daily/ twice daily	Daily (Mon-Fri
Medical and surgical sundries	"	Supplies Department (Stores)	It is assumed that the system of topping-up was originally intended to apply to all these commodities	Requisitioning	Daily or twice daily are the only periods mentioned	Fortnightly (o weekly for Theatres, ITU. AED, Maternity and Central Treatment)
Stationery	"	"		"		
Cleaning materials	"	"		"		Fortnightly
Disposable bed-pans, urinals, sputum pots	"	"		A form of 'topping-up' together with supply on demand		Weekly and ad hoc

continued ...

Pharmaceuticals	Pharmacy	Pharmacy Porter	Requisitioning and transport in drug boxes	Requisitioning and transport in drug boxes	Daily	Daily
Medical gas	Pharmacy	General Portering Services	-	Delivered as required	-	ad hoc
Minor Provisions	Catering Department	Catering Department - some deliveries made by porters, others by Catering staff	-	Topping-up of commodities to accompany meals plus Requisitioning	-	Weekly

5.3 Distribution of supplies to wards and departments at the West Suffolk Hospital

LINEN

Planning policy

Each ward was to be equipped with a 'maxi' towable trolley. At a regular time each day this was to be collected by a tug driver and taken, in train, to the Linen Reception area in the Supply Centre where it would be re-stocked to an agreed level and returned immediately to the ward. On the ward, two small trolleys could be 'topped-up' as required.

No linen was to be ward designated so that interchange in an emergency could be easily achieved, although certain special items, such as Theatre linen, would be designated.

(See p.102 for discussion of the development of this planning policy.)

Current pattern of distribution

Each ward is allocated two linen trolleys: so, too, are some of the departments, exceptions being the Operating Department, Special Care Baby Unit, Psychiatry, X-ray, Physical Medicine, Outpatients Department, Pathology, Central Treatment and the supporting departments - Pharmacy, Catering, Administration - plus the Education Department. In this respect the provision is very much as at Frimley, though, at the West Suffolk it will be noted that the Central Treatment Suite does not receive a trolley service. Additionally, the nature of the service at the West Suffolk is such that the linen trolley is always in circulation and there is only one on a ward at any one time; at Frimley there are sometimes two.

The trolleys are filled up at the District Laundry about a mile away

from the hospital. At 8.00 a.m. a Laundry van commences the first of three runs to the hospital bringing the filled trolleys. The van arrives at Loading Bay B (fig. 5) where two of the hospital porters help to unload the trolleys. Once the first four are unloaded these are taken, in train, to the wards where they are exchanged for the empty or partially-empty trolleys. These latter are taken back to the Loading Bay in order that they can be returned to the Laundry van ready for re-stocking at the Laundry.

The delivery of bags of linen to areas such as the Operating Department and Outpatients' Department is achieved by hitching a low, flat trailer to the tug. The low trailer is preferred because it reduces the amount of lifting required to handle the heavy bags and polythene boxes of linen. Theatre linen is delivered to the hospital at about 4.30 in the afternoon.

In addition to the services operated by the porters, the Linen room staff themselves run a top-up service for departments, such as the Psychiatry Department and Physical medicine. Psychiatry receives two deliveries per week, while the Physical Medicine Department receives one. These deliveries, and the delivery of emergency supplies of linen to wards and departments, are made using a hand-pushed trolley. The Linen Room staff find that the trolley, when laden, is difficult to push up the delivery ramp. If they cannot enlist any help, therefore, it is sometimes necessary to walk round the ground floor Hospital Street to the opposite end of the building in order to use the lift to the first floor.

Representatives of those responsible for the planning of the Best Buy express some concern about the safety of hand-pushed trolleys on the ramp. Indeed they comment that such a situation was never intended. The fact that Linen Room staff push trolleys therefore raises several questions; if the hand-pushed trolleys are used because of the non-

availability of tugs, has the situation arisen as a result of the way in which the tugs are deployed or is there a case for increasing the number of tugs? Alternatively, if the ad hoc nature of these small linen deliveries makes it impractical to programme them into tug rounds, is there a case for locating a linen substore, in the main building, to which a once daily delivery of linen could be made by tug?

Neither the Kitchen nor the Pharmacy receive a regular supply of linen as paper towelling is used in these areas.

Summary comparison with planning policies

In a sense, the system of linen supply at the West Suffolk is as similar to the original 'direct-to-user' policy of Best Buy as it is to the revised version of the policy which accompanied plans to extend the Supply Centre. The trolleys in use are exactly as described in the revised policy (Supplement to IID) but the fact that they are topped-up off-site does not seem to have been anticipated. Neither does the method seem to be popular with hospital or Laundry staff, but it has been adopted because of space constraints within the hospital Supply Centre.

At ward level the service is perhaps a little more efficient than that planned, since trolleys are exchanged and the ward is thus never without linen, providing the stock has not been fully depleted before the exchange takes place. But, in terms of total efficiency, advantages such as this have to be weighed against the cost of transporting the trolleys back and forth, which includes considerable wear and tear to the trolleys themselves. The operation of an on-site exchange-trolley service would, of course, require a lot more space because, at any one time, it would be necessary to store, centrally, a duplicate trolley for each of those actually in use.

Staff reaction to the trolley service

On wards and departments, reaction to the trolley service itself seemed favourable. Any dissatisfaction seemed to result from the quantity of linen supplies (see next paragraph). From the point of view of the delivery porters, however, the trolleys can be a problem. In transit

between Laundry and Hospital the trolleys get battered and the handles, by which they are pulled from Hospital Street to their location on the ward, get broken. Manoeuvring them thus becomes a difficult task. Furthermore, in their battered state, the trolleys do not create a very good impression to the visitor.

Losses of linen

The problem of linen losses seems to be as grave in the Bury St Edmunds Health District as it is in the Districts relating to Frimley Park. Recently, stock checks have been undertaken within the Disctrict to ascertain the extent of the problem, in order that something can be done to improve the situation. Recently, too, wards and departments have been encouraged to bring out their 'hoards' of linen, in order to increase the amount of linen in circulation. One respondent commented that, having tried for a couple of months to do without the secret 'hoard', her ward had to find the opportunity to recover the little stock because bed linen was too frequently running low. Respondents from four departments out of 19 volunteered the information that there was a small stock-pile of linen on their department. Doubtless these are not the only four departments where such measures are taken to ensure an adequate supply of linen at all times. It is unfortunate, however, that such hoarding takes place since it does exaggerate an already difficult linen situation. That the hoards exist at all is certainly an indication of mistrust in the ward supply of linen and perhaps, too, in the emergency 'buffer' supply which is held in the Supply Centre. However, those respondents who mentioned the necessity to call on the emergency service were more than satisfied with the efforts the Linen Room staff make to meet demands.

The 'buffer' supply is in no way a standard additional stock sent to

the hospital. Items are only sent if requested and this, in turn, depends on their availability at the Laundry some time during the day. However, Linen Room staff do their best to have small stocks always in reserve. The greatest difficulties seem to occur at the weekend. On Saturdays, wards are intended to receive double supplies to last them for Sunday, when the Laundry is closed; shortage of linen makes such provision extremely difficult. Although the Linen Room staff try to leave a reasonable emergency stock (150 sheets and draw sheets, approx.) it is not unusual for this to disappear. It is thus felt that this is not so much an 'emergency' stock as a stock essential for the normal running of the hospital.

There is the added problem, at the weekend, that no-one is available to monitor the supply of linen from the Linen Room. The key is held with the porters and access can be gained as necessary, so it is not difficult to imagine that the temptation exists to take slightly more than is immediately required.

Just as at Frimley, shortages of linen are not as acute in some areas of the hospital as they are in others.

STERILE SUPPLIES

Planning policies

Sterile supplies were to be received in a form ready for direct distribution to wards and departments from the reception area (Policy IID, p. 5).

Sterile packs for Theatre were to be processed by the TSSU.

Current pattern of distribution

The CSSD at St Mary's Hospital supplies sterile packs in bulk form to the West Suffolk Hospital, to be sorted at hospital level before distribution to the wards and departments. There is, however, one department at the West Suffolk where the supply of instrument packs forms a 'closed loop' i.e. where the department receives, direct from CSSD, those instruments that it has sent. This is the Outpatient Department. The method seems to have been chosen here because the total supply of some of the specialised clinic packs, which are extremely expensive, is very limited and it is therefore essential that they do not go astray. Soft packs used in the Outpatient Department, however, are supplied in the same way as for other departments.

Within the hospital all packs - except those previously mentioned for OPD - are supplied, from the CSSD substore in the Hospital Supply Centre, on the basis of a topping-up system. Two porters organise the service: the workload is divided between them so that each is familiar with a different part of the hospital. In most areas the service is provided daily, Mondays to Saturdays, but there are one or two exceptions: in the Geriatric Wing, for example, it is claimed that sterile supplies are topped-up three times per week, while in Central Treatment, they are topped-up three times per day.

On the wards, sterile packs are stored in plastic boxes on shelves in the Supply areas, much as they are at Frimley. Each CSSD porter holds a book in which are listed the levels to which the stocks in those boxes must be topped-up. Before he makes any deliveries, he goes round checking the stocks and assessing the number and quantity of packs needed. Later he returns with the supply.

Sterile packs are transported from the CSSD substore to the user

departments using a hand-pushed trolley. The drums (see illustration, p. 90) in which they are delivered from the CSSD are often used as containers for the purpose of internal distribution. It is possible, although this is speculation, that if the packs themselves are handled carefully, these drums have an advantage over sacks regarding the amount of protection they afford to the instruments during the handling process.

The quantities held on the wards were assessed before the hospital opened. Theoretically, these were to cover a three day period. In practice, realistic quantities were difficult to assess, since the concept of central treatment was alien to the ward Sisters prior to the move. Allocations have been adapted as time progresses but it is claimed that borrowing between wards still occurs.

The CSSD at Bury does not use the system of date-coding that is found on the Frimley packs. Only rarely-used packs receive any form of date-coding. This is because it is felt that packs circulate sufficiently.

The TSSU, adjacent to the Operating Department, distributes all the sterile packs used in the Theatres. However, at the TSSU gown and soft packs are received from CSSD.

Summary comparison with planning policy

The distribution of sterile supplies does not correspond with that planned. It is, however, one of the few topping-up services that is operated within the hospital.

In terms of storage space at ward level there may be little to choose between the system of topping-up or of exchange or standard issue, providing the frequency of service is the same, but the organisation of a topping-up service has made an impact on the allocation of space at the Supply Centre.

If the system runs smoothly, ward staff are relieved of any responsibility for checking stores, but it will be noted that the system at the West Suffolk demands the full-time commitment of two porters. The service is not programmed to make use of the tug and trailers: this is another divergence from planning of the total system.

Reaction of staff to the supply of sterile packs

On the whole, few comments were made on wards and departments concerning problems over the system of sterile supplies. Some felt the service was good providing the regular porters were not away, but it tended to become less efficient when they were, because no-one else had the same knowledge, either of the range of packs in existence, or of their location in the substore.

Respondents on two departments mentioned that their departments did not always receive the sterile packs required. Discussions with Nursing Officers and personnel in administration revealed that this problem might be more extensive than that figure would imply, but since respondents were not prompted to make specific comments about each type of commodity supplied, the figure serves only to show that there is sometimes an inadequate supply of sterile packs on wards and departments rather than to show how extensive the problem might be.

One ward visited, during the study period, claimed to be receiving an oversupply of sterile packs. This caused them some concern at the same time as being an advantage. First, they suspected that other areas might be going short of some commodities, while they had an oversupply, and were worried about the items collecting dust on their shelves. On this count they were resolved to see that excess packs were returned to the CSSD substore. However, at the same time, the existence of some of the extra packs made it tempting to carry out treatments on the ward which, according to another policy of Best Buy, should be carried out in the Central Treatment Suite.

The ward staff interviewed voiced no complaints about the open-shelved storage of sterile supplies. However, the opinion was put forward, in other quarters, that not only were stocks on these shelves liable to

become very dusty but they were also open to pilfering. This may be true, but, as a counter argument to the latter point, the proximity of the shelves (on wards, if not on all departments) to the nurses' station does permit a certain amount of overseeing, even if the door of the Supply area is outside the visual range of a nurse sitting at the desk. The problem of security may be much more fundamental than the fact that, at ward level, supplies are open to view.

One respondent made the point that it was an advantage to be able to see the porter delivering sterile packs since, if necessary, attempts could be made to sort out any problem that had arisen over supply.

Losses of sterile supplies

Just as in the Surrey Districts, the losses of instruments for sterile packs are a grave problem for CSSD. Here, the actual loss, estimated at £200 per month, appears to be far less than in Surrey, but one would need to know much more about the catchment area of each CSSD to make head for head comparisons. Any losses are a matter of concern and, of course, they do lead to problems of supply within the hospital. For this reason, a Works Study has been carried out at the West Suffolk to assess the feasibility of operating 'direct-to-user' ('closed loop') supply for all departments. How effective this would be in controlling losses is not clear, but it should perhaps be emphasised that experience in Surrey is not necessarily discouraging, since the system there is not strictly comparable. The 'closed loop' system means that instruments are received by CSSD and go through the processes of cleansing, repackaging and sterilisation before they are returned. The system at Frimley, it will be remembered, is that packs are replaced on receipt of a ticket from a previously issued pack. Thus, at Frimley, providing the ticket is not lost, CSSD will supply a new pack, whereas under the 'closed

loop' system packs can only be returned promptly if instruments have not been lost. This may well provide additional incentive to ward staff to take care of their stocks. However, one of the advantages of the Frimley system is that packs can be replaced rapidly which may also mean that the individual allocations of packs do not have to be so great. Furthermore, the ticket system at Frimley is a total one, involving soft packs as well as instrument packs. The 'closed loop' system proposed at Bury would only involve instrument packs and it would thus be necessary either to continue topping-up soft packs or introduce an additional system of requisitioning.

It is argued that the 'closed loop' system introduced for the Outpatients Department at the West Suffolk has been effective in reducing losses. But it remains to be seen whether a decision will be taken to alter the system of sterile supply distribution throughout the hospital. There are certain economic considerations to be made, quite apart from the fact that it is necessary to weigh up the advantage to wards of one system over another.

STORES

Planning policies

Those items designated 'stores' (p. 101) were among the commodities which were intended to be supplied on the basis of a daily (or twice-daily) topping-up service to local supply points.

Current pattern of distribution

Medical and surgical sundries (including dressings), cleaning materials (and hardware and crockery, as necessary) are requisitioned by the staff of wards and departments on a weekly basis. Stationery is requisitioned on a monthly basis. Disposable bed-pans and urinals are supplied by the Stores staff daily: the form of delivery, as at Frimley,

is more akin to standard issue than 'topping-up'. The supply of minor provisions to wards is also undertaken partly by the Stores staff (see p. 147).

Stores are delivered on an open trailer pulled by a tug. This trailer is one that was brought from the old hospital and adapted for use with the tug (see illustration, p. 94). Stores were allocated two new trailers of the 'cage' type (also p. 94) but the old trailer seems to be preferred.

Requisitioning

Respondents claimed that medical and surgical sundries are invariably requisitioned by nursing staff on wards and by other qualified staff on departments (such as the Physical Medicine Department) where there are no nurses on the staff. Stationery is variously ordered by nursing staff and housekeepers, on the wards, and by receptionists or secretaries in most of the departments. Cleaning materials seem, on the whole, to be ordered by housekeepers, although it was mentioned, on some wards, that requisitions are countersigned by nursing staff.

Much discussion has been taking place, within the hospital, concerning the forms for requisitioning. Just as at Frimley, some pre-printed forms exist, but they are unpopular since they are time-consuming to complete and, it is argued, constitute a considerable waste of paper, because a ward may be ordering only a couple of items on each printed sheet. The advantage of these pre-printed forms, however, is that they give an indication of those items which are stocked within the Area - at least for those categories which they cover. In the case of the West Suffolk, though, it is also desirable to know what is held in the immediate vicinity as opposed to what is held in the Area, in general: the ordering of these stock items is subject to less delay than the ordering

of non-stock and it is useful for ward staff to have some expectation of response to their request for an item.

In order that ward staff can become aware of those items which are most easily accessible and, at the same time, have a more simple requisition form to complete, it has been decided that a catalogue of local stock items should be used in conjunction with a blank requisition form. At the time of this study, there existed, in draft form, a catalogue of medical and surgical items held in stock both at the hospital itself and at the Sub Area Store. This was awaiting the approval of senior hospital staff before being produced in final form.

For requisitioning of items not held in stock, ward nursing staff need the signature of a Nursing Officer. Requisitions of this nature pass via the Stores to Unit Administration where, if approved, an order is raised with the Area Supplies. However, the lack of a direct link between Nursing Officers or Heads of Departments and the Area Supplies has made it difficult to follow up orders, should problems arise so, at the time of this study, a hospital Working Group, investigating supply problems, had agreed that Nursing Officers and Heads of Department could use the Area order forms themselves, providing the forms passed through Unit Administration for signature. This is because Unit Administration performs a monitoring function. Some departments, e.g. Works Department (see p. 91) have always had special arrangements for placing orders.

The fact that an item is not held in stock does not imply that its use, on a particular ward or department, is rare, but that total usage within the District is felt to be insufficient to warrant its inclusion in Stores. Stock used only in one area of the hospital will, of course, move relatively slowly: one can understand the reluctance to hold it, therefore, particularly in the West Suffolk Store which was designed to

hold only a few days' supply. However, to the ward, it is a matter of inconvenience that special orders have to be placed for an item which is commonly used on that ward. Furthermore, of course, special orders, although perhaps a small proportion of items stocked on the ward, will tend to be held in quantities much greater than those generally envisaged by the Best Buy planners. This is because ordering very small quantities is subject to the problems mentioned already in this report.

Delivery of requisitioned commodities

The delivery of special orders to wards and departments is fitted into the Stores daily schedule of work. The delivery of stock items takes place in response to requisitions, once a week. Store staff collect requisitions from wards and departments on Mondays and Tuesdays, during the course of making other deliveries in the hospital. Requisitions are made up as they arrive so, just as at Frimley, there is no real sense in which deliveries to wards are timetabled. However, an approximate daily schedule for the Stores tug has been compiled for the reference of the hospital Working Group on supplies: this appears on p. 140. Though the timetable varies from day to day, it indicates that there are certain periods during the day (here 10.30 - 11.30, 14.45 - 15.30, 15.45 - 16.30) when the Stores staff may be using the tug to make deliveries in response to weekly requisitions for 'stock', as opposed to making any other deliveries.

The few respondents who answered a question, concerning the timing of deliveries to their ward or department, claimed that requisitions were met within one or two days of their placement with Stores staff. Stationery is the major exception. As noted earlier, this is requisitioned monthly, rather than weekly, the reason being that it is not held within the Hospital Stores.

STORES TUG SCHEDULE

WEST SUFFOLK HOSPITAL

08.30		Bulk milk delivery to Catering Department
08.40	- 09.15	Collection of drug boxes from first floor
09.15	- 10.15	Topping-up of disposable bedpans, etc.
10.30	- 11.30	Delivery of requisitioned items
11.30	- 12.00	Delivery of pharmaceuticals to Pharmacy
12.00	- 12.40	Delivery of drug boxes to wards
12.45	- 13.00	Delivery of special orders
14.00	- 14.45	Collection of drug boxes from ground floor
14.45	- 15.30	Delivery to Catering Department
15.45	- 16.30	Delivery of stores
16.30	- 17.30	Delivery of drug boxes to ground floor wards

Requisitions are sent via Unit Administration to the Sub Area Stores, where orders are made up in standard containers. These are returned to the wards via the Hospital Stores and are reputed to arrive from a week to a fortnight after the requisitioning date.

Summary comparison with planning policies

Divergence from the planning policies, with respect to the distribution of the majority of stores items, is the same at the West Suffolk as it is at Frimley, although the frequency of the scheduled deliveries is greater and therefore the system may not have the same implications in terms of space in the local supply areas, although stocks must require more space than they would for a daily delivery system.

Respondents claimed that requisitioning is preferred at the moment because it is more simple to administer than other modes of supply. The concept of topping-up is not rejected out of hand, but it is felt, in the Stores Department, that it would require a considerable increase in manpower: it was suggested that a study of the system in operation at Greenwich District General Hospital would verify this assumption.

At the Administration level, it is considered that 'standard issue' has some advantage over topping up, as well as over the system currently in operation. 'Standard issue' has the same effect for ward staff that topping-up has, i.e. it relieves them of the time-consuming procedure of requisitioning, but it has the added advantage of eliminating the necessity for Stores staff to assess, individually, the quantities needed on each ward and department and it allows the hospital to monitor the use of supplies. However, one can see that, if widely used, it has its disadvantages too: the assessment of the quantity of a standard issue must be as difficult as the assessment of levels for topping-up and there is the additional problem of ensuring that stocks of each item do not build up on a ward if use becomes less frequent. The NCB team concluded, for their study, that topping-up was perhaps the preferable option because it does have 'the characteristic of adjusting supply to demand, thus preventing a build-up of stocks at delivery points'.[1] They suggest that a compromise for daily deliveries would be to deliver standard quantities on all but the last day of the week when a topping-up round could be done. But, of course, here again we return to the problem of manpower.

Currently plans exist at the West Suffolk to try out a system of standard issue for cleaning materials, which are felt to lend themselves to this type of distribution.

It will be remembered that at Frimley, too, it had been possible to develop departmental stock levels for these commodities.

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1 National Coal Board Operational Research Executive
Report on Supplies Within a New District General Hospital
(O.R. 870/1/2)
DHSS, March 1970

The introduction of standard issue for medical and surgical items would be considerably more difficult but the hospital is, at present, making an analysis of requisitions in an attempt to determine just how erratic are the demands of each ward and department. Having done this it is hoped that it will be possible to discover whether there is not some basis for standardisation of demand over a period of time. At the moment this exercise seems to be taking place with a view to helping Stores staff to assess the amount of stock it is necessary to keep; however, it might also provide a basis for 'standard issue' if this is felt to be acceptable.

A further study is taking place of the quantity of minor provisions being delivered to the wards. It is understood that this, too, is being carried out with a view to introducing 'standard issue'.

Reaction to the current system of Stores distribution

Here, as at Frimley, the system of requisitioning is not infallible. Indeed, the frequency with which ward and department personnel arrive at the Main Store asking for additional items, or making some enquiry, has led the Stores Department to request that there should be only two periods in the day, 10.30 - 11.00 a.m. and 3.30 - 4.00 p.m. for such visits. This is in order to minimise interruptions to the work schedule at other times of the day. However, despite the request, it is alleged that ward staff turn up at all hours of the day. However, it was evident from discussions on the wards that some staff, at least, try to be accommodating in this matter, although it was also mentioned that it is sometimes difficult to adhere to these times.

There seemed to be little dissatisfaction with the service provided by the Stores Department: problems were more frequently seen to arise from the fact that a number of the items requested are not held in stock, or that they are temporarily out of stock. A couple of respondents felt that Stores could occasionally offer an alternative to a requisitioned item. However, on the whole, respondents felt Stores staff were very helpful.

Several respondents criticised the length of pre-printed requisition forms. However, steps are being taken to remedy this situation.

Bulk disposable bedpans and urinals are delivered daily (Monday to Saturday) on the Stores tug. This is termed 'topping-up', though it is really a form of 'standard issue', since boxes are not divided.

PHARMACEUTICALS

Planning policy

Deliveries of drugs and other pharmaceuticals were to be separate from deliveries of other commodities. Each ward and user department was to have its own lockable hamper for the transportation of pharmaceuticals

One or two porters were to be seconded to the Pharmacy. Each day a porter would take a tug and trailer(s) to the Issue Lobby of the Pharmacy, where he would load up the filled hampers before commencing his rounds.

At ward and department level, a trained nurse would be responsible for unloading the hamper which would then rest in the Disposal room.

Later in the day, the Pharmacy porter would take the tug round to collect up the empty hampers and the requisitions for the next issue from Pharmacy.

Current pattern of distribution

Each ward has one lockable drugs hamper: departments have one or two, depending on need (the Operating Department, for example, has two).

There is no Pharmacy porter at the West Suffolk, so the delivery of drugs hampers (or boxes, as they are called by the hospital staff) is undertaken by the Storemen, using the Stores tug and trailer. The scheduling of drugs rounds is fitted into the general programme of Stores deliveries (see p.140).

In the morning, from about 8.40 - 9.15, drugs boxes and requisitions are collected from first floor wards and departments. At the same time, the Storemen check the need for bulk disposables. Once collected, the drug boxes are returned to the Pharmacy Issue Lobby where they are filled by Pharmacy staff.

The Storemen continue with other duties until about 12.00 noon, when they return to the Pharmacy Issue Lobby to collect the filled drug boxes and deliver them to the appropriate wards and departments.

In the afternoon, between 14.00 and 14.45, drug boxes are collected from the ground floor wards and departments. The filled boxes are delivered between 16.30 and 17.30.

Ground and first floor drug boxes are dealt with separately to ease the pressure on space in the Pharmacy Issue Lobby. This rather small space is further confined by the necessity to use some of the area for the storage of bulk Intravenous Fluids, which are delivered, as necessary on the basis of topping-up.

Just as at Frimley, drugs boxes tend to be held in the Supply areas rather than the Disposal rooms, when ward staff have emptied them.

On the wards requisitions are made out and signed by trained nursing staff. The boxes are not signed for on receipt; one respondent commented that there is no need for special procedures as the boxes are returned locked, and the key is generally retained by a Sister. Controlled drugs, however, must be signed for on receipt.

Requisitions tend to be for small quantities.

To meet requests for 'controlled' drugs, special deliveries are made by a Pharmacy Assistant between 11.30 and 12.00 in the morning and again, in the afternoon, in response to requisitions sent in the 'afternoon boxes'.

Special order books exist for 'controlled drugs'. These must be signed by a Pharmacist on issue of the drug, by the messenger delivering the drug and by a qualified member of staff on receipt of the drug at its destination. Such measures are taken to conform to regulations laid down for the handling of drugs.

Outside normal delivery times, wards and departments would use their own messenger services, should further supplies of pharmaceuticals be needed. The Pharmacy is open between 9.00 and 17.00 on weekdays and 9.00 and 12.00 on Saturdays and Bank Holidays. The arrangements for items required urgently when the Pharmacy is closed have already been mentioned: access to the department itself can be gained with authorisation from the

appropriate personnel.

Summary comparison with planning policies

The basic drug delivery service is the same as that planned. It differs only in the division of the workload into two and in the way the service is staffed. Since it is the Stores staff who deliver drug boxes, these rounds have to be carefully programmed to fit in with other Stores deliveries. In this sense, then, the particular arrangements for drugs distribution bring the total supplies service closer to that ideal of co-ordination envisaged by the Best Buy planners. This is a matter of making efficient use of staff time rather than minimising traffic flow: it has been mentioned that it is the view of hospital administration that the co-ordination of tugs rounds to minimise traffic on the Hospital Street is of secondary importance to ensuring that user demands are satisfied.

Staff comments about Pharmaceutical distribution

None of the ward and department respondents voiced a complaint about the service provided by Pharmacy. Indeed a couple of respondents mentioned that it is an extremely good service particularly because it is so frequent.

A daily service is only provided where necessary, however; one or two respondents mentioned that their departments have slightly different arrangements with Pharmacy. For example, the Outpatients Department may not need to place an order more than three times per week. Their own departmental porter knows when the drug box needs filling, by the special way it is placed by the nurses.

In the X-ray department, although most pharmaceuticals are requisitioned in the normal way, opaque media for contrast work are ordered directly from the off-site Pharmacy Store. Radioactive materials are delivered direct from the Regional Pharmacy at Cambridge and film-developing chemicals are ordered direct from the manufacturers, a procedure which has been authorised by Area Supplies.

Storage of Pharmaceuticals on the wards and departments

On the wards, provision of drug storage is much the same as at Frimley: a dugs cupboard, a refrigerator and a trolley for use on ward rounds. The refrigerators should be used solely for drugs but they have sometimes been in use for food as well, because the planners, not envisaging the necessity for food storage in the wards provided no additional refrigerators. Some departments of the hospital have successfully campaigned for the allocation of a food refrigerator.

Periodically, the Pharmacy staff monitor the storage of drugs, checking where necessary to see that they are being maintained in the correct conditions.

Many of the departments also have a drugs cupboard. Since the hospital opened, the drugs cupboard on the Physical Medicine Department has been forced on several occasions. Fortunately, the staff comment, it contains little that would be dangerous. However, the fact that it has been forced more than once is an indication of the vulnerability of stores in a department which is not staffed at all hours.

Medical gas cylinders

The delivery of medical gas cylinders is dealt with, as at Frimley, by the Portering Services responding to direct requests from wards and departments.

On the wards cylinders do not seem to represent a storage problem as such, although one respondent felt that her ward should have more piped outlets so that portable units would not need to be employed.

In the Intensive Therapy Unit, the storage of large compressed air cylinders has been a problem. Indeed, during the period of this study it was not unusual to see a couple of these large cylinders lying on the

floor in the Hospital Street. However, piped air has now become available to this area so the problem will be solved.

In the Central Delivery Suite at the West Suffolk, just as at Frimley, there was no storage unit specifically designed to take the small reserve stock of cylinders. However, a small rack was brought in from the old hospital site and this has been located in the Housekeeping room on a corridor used for the delivery of supplies. Used cylinders are left outside this room.

On the Accident and Emergency Department, the problem of storing a quantity of reserve cylinders has been solved by the hospital carpenters, who have created a rack specifically for the purpose. A similar rack has been used for splints and provides an ingenious solution to another storage problem.

MINOR PROVISIONS

Planning policy

In addition to routine meal and beverage services (for details of these see following Section) there would be an occasional need for special beverages on the wards. These could be prepared on the standard beverage units. The responsibility to supply these units would belong to the Catering Officer.

Some dry goods might only need to be supplied weekly, while fresh milk might be supplied daily.

Current pattern of distribution

Minor provisions are variously topped-up or requisitioned, depending on the commodity and the department. The first floor ward beverage units

receive a daily top-up of tea bags, sugar coffee etc. The deliveries are made, during the afternoon, by a member of the Catering staff. Supplies are small not because the beverage units are too small to hold larger quantities, but probably in order that the provision will not be abused - the intention is that these commodities should be used for the occasional drink required by a patient or a distressed relative.

The ground floor wards receive a daily delivery of tea, coffee, sugar, etc. from the Main Store. Additionally these wards requisition items to accompany meals since they do not receive the complete tray service of the other wards. Requisitions for extra items may also be placed by first floor wards and departments. The Operating Department, on the first floor, requisitions for all its minor provisions, presumably because it is not practical for Catering staff to enter the department to provide a top-up service. Here, the provisions are for staff rather than patients.

On the ground floor, the Accident and Emergency Department, in addition to the in-patient areas, requisitions for minor provisions to make beverages. This is a divergence from policy, as it is at Frimley also. Reasons for the provision of beverages on AED are discussed on p. 166.

The Occupational Therapy Department, on the ground floor, also places requisitions for provisions. These are for the use of patients in the Demonstration Kitchen. Ingredients for items to provide meals for one person are collected the day before they are needed.

Requisitions for provisions are received by the Stores Department via the Catering Office. These are dealt with twice a week: there are plans to alter the system to one of standard issue.

Milk is delivered daily to the wards on the Stores tug. Wards place their order with the Catering Office who pass on a list of requirements to the Stores staff.

The Storeman delivering milk also checks the level of baby provisions on those departments where they are required, so that he can top these up as necessary.

SUMMARY TABLE Internal distribution of commodities to wards and departments at the West Suffolk Hospital : a comparison with planned policy.

Commodity	Delivery service organised by:		Type of service		Frequency	
	Planned situation	Current situation	Planned situation	Current situation	Planned	Current
Linen (bed linen and/or towels)	General Portering Services	General Portering Services Linen Room staff	Originally direct-to-user from off-site. Subsequently policy became less precise over this issue. However, it was stated that trolleys should be stocked in the Supply Centre.	Trolleys topped-up off-site. Exchange trolley at ward level. Some linen is delivered in bags (Theatre) Some linen is topped-up at department level.	Daily	Daily (Mon-Sat) Periodicall
Sterile Supplies	"	Special Portering Service	Direct-to-user	Topping-up	Daily/ twice daily	Daily (plus)
Medical and Surgical Sundries	"	Supplies Department (Stores)	It is assumed that the system of topping-up was originally intended to apply to all these commodities	Requisitioning	Daily or twice daily are the only periods mentioned	Weekly
Stationery	"	"		Requisitioning but packed off-site and thus received ready for direct-to-user issue)		Monthly
Cleaning Materials	"	"		Requisitioning		Weekly
Disposable bedpans and urinals	"	"		Topping-up but in standard issue units		Daily

continued ...

Pharmaceuticals	Pharmacy	"	Requisitioning Transport in drug boxes	Requisitioning Transport in drug boxes	Daily	Daily
Medical gas cylinders	"	General Portering Service	-	Delivered as requested	-	Ad hoc
Minor provisions	Catering Department	Catering Department. Some deliveries by porters /some by catering staff.	-	Topping-up of beverage units. Requisitioning.	-	Daily Twice weekly

5.4 Distribution of personal uniforms for non-resident staff

The distribution of uniforms is considered independently of supplies to wards and departments because it was not planned that they should be distributed on a ward and department basis. The decision to centralise Staff-Changing Rooms in the Best Buy hospitals had meant that personal uniforms for non-resident staff could, in the main, be delivered to one point in the hospital.

Planning policy

No mention was made of uniform distribution in the original planning policy for supply, but the policy for Staff Changing Rooms (IIF) and the later supplement to the supply policy indicate that Housekeeping staff, working in Staff Change, would receive uniform parcels and place them in the spaces above the appropriate lockers. To facilitate this process, uniform was to be marked with a number corresponding to the appropriate staff member's locker. The parcels themselves were to be of suitable dimensions for the locker (they 'must not exceed 17½" x 14" x 18"') and to have transparent panels so that numbers on the uniform would be clearly visible.

Frimley Park Hospital

Current system of uniform distribution

Clean staff uniforms are delivered to the Linen-handling area in the Supply Centre, in the same way as other items of linen. They are generally received and unpacked once per week, on a Wednesday. The Linen Room staff take some to Central Staff Change where, if time permits, they are placed in the individual lockers. There are no attendants working in these areas so, if the Linen Room staff are pressed for time, they simply lay the uniforms out on a table from which staff can collect

them as necessary.

Some departments, noteably Pathology and X-ray, receive a special delivery of uniforms, while doctors' coats are invariably distributed departmentally.

Rather than sending the uniforms in parcels of precise dimensions, the Laundry returns them in plastic bags, together with the staff member's Laundry book, from which the name and locker number can be identified. The uniforms obviously do fit in the locker shelves although the lockers themselves are considered to be rather too small to be useful.

Although the reasons for indicating a maximum size for uniform parcels are clear, it does seem a curiously precise detail to include in a planning document. After all, the folding of garments to minimise creasing follows a fairly well-established pattern.

Summary comparison with planning policies

No Housekeeping staff work in the Central Changing Rooms. Linen Room staff place uniforms in lockers if they have time.

It seems likely that the system of uniform distribution is a little less centralised than originally intended. This presumably has much to do with patterns of use of the Central Staff Changing facilities.

It became apparent during conversations with nurses that quite a few of them, these days, prefer to wash their uniforms themselves: this is one area where workload for the Laundry is on the decline, rather than on the increase.

The West Suffolk Hospital

Current system of uniform distribution

Generally, non-resident staff uniforms are sent to and received from the Laundry in bulk, although one or two staff members continue to send their uniform in the traditional manner, i.e. as a personal package, in a polythene bag containing a Laundry book.

The off-site Laundry returns cleaned uniforms daily, Monday - Friday. They are packed together in polythene boxes and delivered at the same time as bagged linen.

Just as at Frimley, there are no full-time attendants in the Central Staff Changing Rooms, so the polythene boxes are unpacked by Linen Room staff, who place folded, but unpackaged uniforms in the shelves above the staff lockers. Each uniform is labelled for identification.

In addition to the delivery of uniforms to the Staff Changing Rooms, the Linen Room staff make deliveries to X-ray, Pathology, Outpatients Department and the Accident and Emergency Department. Doctors' coats are delivered to all departments throughout the hospital, although the Linen Room staff hoped, at one time, that the Doctors' Common Room could become a central focus for doctors' coats. This idea was never accepted as the room is already filled with medical equipment.

A summary comparison with planning policies would be similar to that for Frimley, i.e. uniform distribution may be less central than intended. No Housekeeping staff work in the Central Changing Rooms but Linen Room staff place uniforms in the lockers.

SECTION 6 : CATERING SERVICES

6.1 The Meal Service to wards

Planning policy

It was envisaged that the kitchen would provide plated meals on individual trays, with menu-choice, for almost all upper wards. Bulk heated trolleys were to be provided for the Psychiatric, Geriatric, Paediatric and Isolation wards. In the first three cases this was felt to be a more useful service than the plated one, since nursing staff would be able to assist patients in their choice of meal and provide them with an appropriately sized portion. In the case of the Isolation Ward, the bulk service was felt to be more appropriate because infection control necessitated that it have its own stocks of cutlery and crockery. However, it was also thought that, on the ground floor, generally, even if plated meals had been suitable, delivery on trolleys down a sloping ramp might present difficulties of levelling.

(1) Trays and plated food were to be assembled on the conveyor belt in the kitchen, according to each patients' choice, and then loaded onto trolleys for distribution. Each tray would contain all the necessary crockery and cutlery but tea-pots would be kept separate so that tea could be infused when it reached the ward.

(2) Once loaded, the trolleys were to be taken, by portering staff, to the wards, where they would be handed over to ward staff. The electric tug might be used for long journeys.

(3) Ward staff would deliver each tray to its named recipient and nursing staff could assist any patient who might be having difficulty with feeding.

All the meal time crockery and cutlery was to be returned to the central

washing-up facility in the kitchen, except for that used in the Isolation ward and for some small stocks held, for occasional use, on the wards themselves.

Meal service operating at Frimley Park Hospital

Plated meals and prepared trays are, as envisaged, being supplied to all wards on the first floor, except the Childrens' ward. However, on the ground floor, patients on the Geriatric wards and in-patients on the Psychiatric ward also receive a plated service, rather than a bulk service. This is not quite the same as the tray service for other wards. The reasons for this change from policy were not investigated, but presumably the system of prior-choice means that the requirements of each patient can be met, whereas the bulk food service may not meet all requirements. The provision of menu-choice meals to these wards may also assist the Catering Department in their assessment of provision. Certainly the choices of menu over a period of time are taken as a guideline for ordering provisions. It is claimed that these figures follow a trend which seldom varies, although, on a very hot day, for example, there may be a particularly high demand for salads, which cannot be predicted prior to the event.

Trays are assembled on the conveyor belt in the kitchen, as envisaged. The space for assembling these trays and loading the trolleys has proved very cramped. Furthermore, the suggested numbers of staff operating the conveyor belt are seldom reached. Detailed diagrams of conveyor-belt operation in the Catering planning policy (IIE) suggest nine or ten personnel. Frimley theoretically has eight people to serve plus a Supervisor and Checker. On the day the belt was observed for the purposes of this study, there were only six people serving at lunch time. However, despite problems of space and staffing, the Catering Department successfully serves about 400 people in just over an hour.

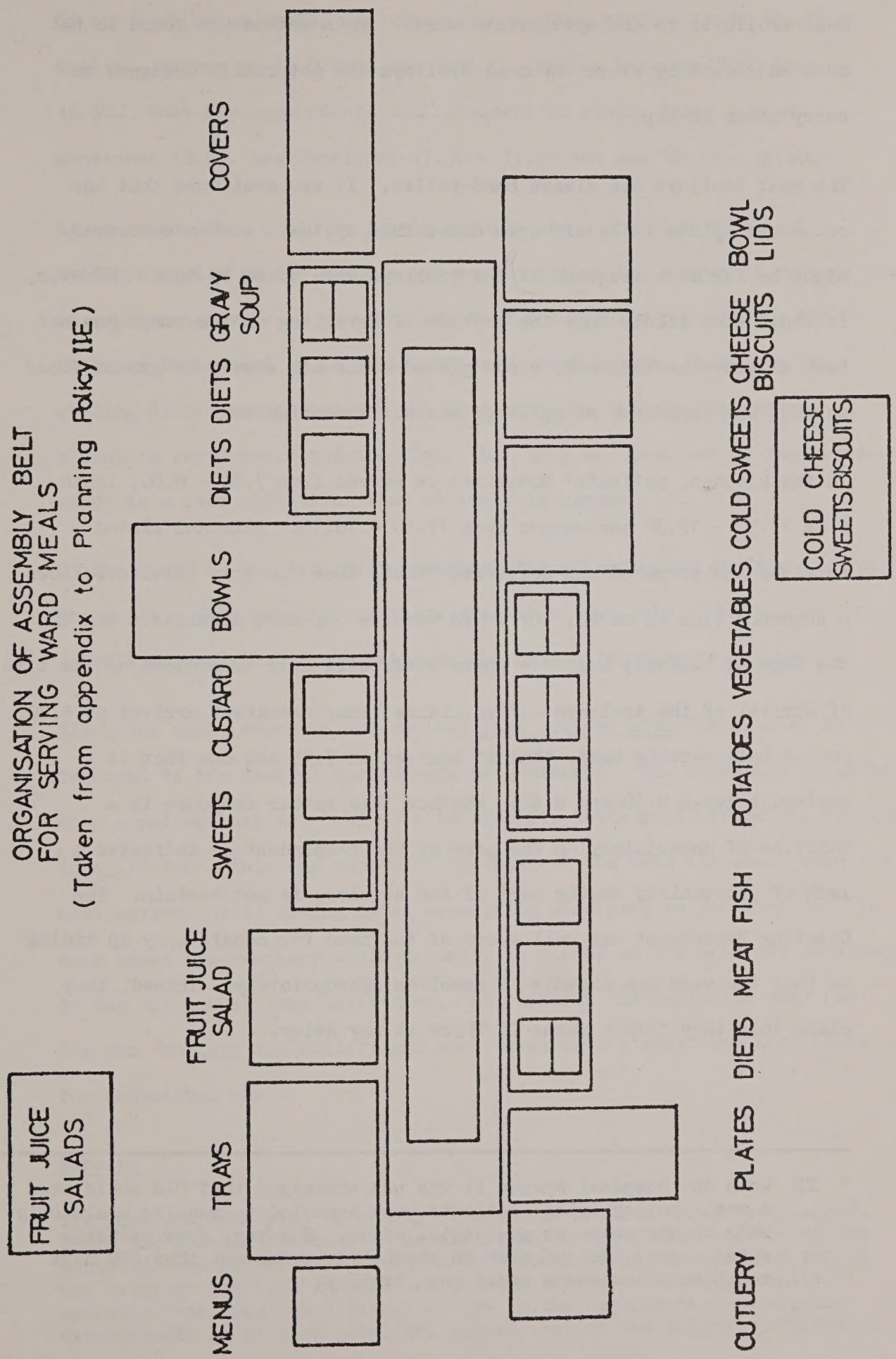
The tray-service trolleys have hot and cold sections. Once a tray has been assembled on the belt it is disassembled for loading onto the trolley. The hot meal is placed in the hot section of the trolley while the tray goes on the cold side, into a space which bears the same number as the slot in which the meal is placed. This facilitates reassembly of the tray at ward level.

These trolleys correspond with detailed descriptions in the planning policy for Catering. It is known that the trolleys are not considered to be the best on the market, but the Catering Manager claims that the system works - meals stay hot unless a problem arises at ward level - so it would be misleading to claim that dissatisfaction with the trolleys runs as high as dissatisfaction over the allocation of space to the Catering Department or over other items of equipment which are used in the kitchen.

Organisation of the conveyor belt has changed from that suggested in the planning policy. Here a diagram (fig. 12) indicates that the staff serving the meal should have the serving equipment in front of them and should thus lean across the 'bain maries' and the trolleys to reach the tray on the conveyor belt. The suggestion was made because the belt is shorter than the average, to economise on space. However, the method is most impractical. It is a long stretch across the equipment and it is not difficult to envisage all kinds of accidents occurring. Thus Frimley has rationalised the system so that the staff serve from the side of the equipment: they have also created a new order of serving which, to them, seemed more logical.

Planning policy for catering indicates that tea-pots would be carried on top of the meal trolleys. In practice, cups, saucers and teapots go on separate beverage trolleys which the porters deliver, together with the

FIGURE 12


ORGANISATION OF ASSEMBLY BELT
FOR SERVING WARD MEALS
(Taken from appendix to Planning Policy IIE)
FRUIT JUICE SALADS
MENUS
TRAYS
FRUIT JUICE SALAD
SWEETS
CUSTARD
BOWLS
DIETS
DIETS
GRAVY SOUP
COVERS
CUTLERY
PLATES
DIETS
MEAT
FISH
POTATOES
VEGETABLES
COLD SWEETS
CHEESE BISCUITS
BOWL LIDS
COLD SWEETS
CHEESE BISCUITS

meal trolleys, to the appropriate wards. This method was found to be most satisfactory since the meal trolleys are not really designed to carry items on top.

The meal trolleys are always hand-pulled. It was mentioned that the occasional plate falls off even under this system; such occurrences might be far more frequent if the trolleys were towed by tugs. However, it would seem likely that the problem of levelling on the ramps has not been as grave as imagined, since plated meals are served to ground floor wards. The incidence of spillage was not investigated.

In the kitchen, patients' breakfast is served from 7.30 - 8.00, lunch from 11.30 - 12.30 and supper from 17.30 - 18.30. Bulk and plated services are prepared and delivered first, then the tray service follows a sequence from F2 round. Of seven wards - or, more accurately six and the Central Delivery Suite* - where staff were able to comment on the time of arrival of the trolleys - five claimed that breakfast arrived at 8.00, one, a bulk-service ward, that it arrived at 7.45 and one that it arrived between 8.10 and 8.40. Whether this latter response is a function of uncertainty on the part of the respondent or indicates a lack of punctuality on the part of the service, is not certain. The Catering Department are well aware of the need for consistency in timing so that the ward can organise themselves appropriately. Indeed, they claim that they inform wards if there is any delay.

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* NB When the hospital opened it was not envisaged that CDS would need a meal trolley, since patients were expected to require meals only when on the ante- or post-natal wards. However, some patients spend a good deal of time in the Labour rooms and thus CDS have now been allocated a small meal trolley.

Of the same seven wards, two claimed that lunch arrives at 11.45, four that it arrives at 12.00 and one that it arrives between 12.00 and 12.30. Only six respondents could comment on supper times - four mentioned 18.00, one mentioned 17.30 - 17.45 and one 18.15 - 18.40.

Since respondents could be fairly precise about the time that meal trolleys arrive on the wards - and assuming that the sample of respondents is representative - we can conclude that the service provided by the Catering Department is an efficient one. Furthermore, there are few glaring discrepancies between the time that the Catering Department claims to serve meals and the times that they are received on the wards, which is a fair indication that delivery is prompt.

On the wards it is, generally speaking, the housekeeping staff who serve the meals. When nursing staff are available they help in this process, as well as assisting those patients who have difficulty in eating.

After the meal, crockery and cutlery that arrived with the trolley is returned to the central washing-up, as envisaged. The exception would be when a patient has not been able to complete their meal before the trolley is collected: this can happen if the patient has been elsewhere when the meal arrives or if eating is an especially slow process for him/her. In such cases the crockery would probably be rinsed on the ward but returned to the kitchen at some later time. As planned, the Isolation ward has its own crockery and cutlery and most wards have a small stock of items for occasional use.

Summary

The general principles of supply of meals to wards are much as planned. There are some differences in detail, such as the plated service to the Geriatric and Psychiatric wards on the ground floor, or the decision to use beverage trolleys in addition to meal trolleys. But, generally speaking, the greatest differences are in the organisation of serving arrangements at kitchen level and indeed, one of the biggest problems in

the chain of supply is the lack of space in the kitchen for performing the serving functions.

The central washing up service operates much as planned.

Meal service operating at the West Suffolk Hospital

All the wards on the first floor at the West Suffolk Hospital, including Childrens' ward, receive plated meals and prepared trays. On the ground floor the bulk food service operates, as planned, and the new Geriatric kitchen serves the wards and Day Hospital in the Geriatric extension.

The meal trolleys are loaded in the kitchen in the manner planned although here, as at Frimley, the particular organisation of the assembly belt varies from that suggested in order that the server can stand beside the items she is serving. Again, space around the assembly belt is found to be cramped.

There may be 10, 12 or 14 people around the belt, including a Supervisor and a 'Runner' who replenishes the serving dishes. The number changes according to the meal that is being served.

It is felt that the meal trolleys used for the plated meals create an element of time-wasting in the system because their design is such that it is necessary to double-handle the trays and plates. On the belt, the trays are assembled with the plated meal; to load the trolley the plate must be removed again; finally, on the ward the plate must be replaced on the tray.

Despite the fact that the plate goes into a heated section, it is likely that the clumsiness of the procedure contributes to the cooling of the plate before it reaches the patient. Certainly, one of the main complaints heard by Catering staff is that meals have gone cold. However, it is felt that the draughtiness of the kitchen and additional problems

of service on the ward, such as the difficulty of locating patients, also contribute to cooling the food.

It is worthwhile considering, briefly, the problem of locating patients on the wards. Policies of progressive patient care, a fundamental concept in Best Buy planning, involve the movement of patients from areas of high to lower dependency on the wards, as their conditions improve. Thus, occasionally, a patient will occupy a different bed-space on the ward at the time a meal arrives to that he occupied when he made his choice of menu. Coding spaces on the trolleys to correspond with a particular bed number has thus been impractical and housekeepers serving the meal must find the patient by name. Sometimes, when they have not been aware of changes on the ward, the process of finding the patient may also delay the speed with which his meal arrives.

A further problem with the trolley is that there is insufficient depth in the tray section to allow cups and saucers to be placed on the tray in the way that was planned. Cups, therefore, have to travel on the top of the trolleys which means that there is then insufficient space to carry individual teapots. Furthermore, there is no rim around the top of the trolley to prevent items from falling off.

Here, as at Frimley, trolleys are pushed by hand rather than towed by tug in order to prevent accidents.

In the kitchen, the belt is operated for breakfast at 7.45 - 8.30, lunch at 11.45 - 12.30 and for supper at 17.45 - 18.30. The Bulk-food service trolleys are delivered first and then plated meal and tray trolleys. The round for delivering the plated meal services on the first floor has not retained the F1 - F12 sequence, because the later meal service for F11 was awkward for mothers on the Post Natal ward. Currently,

therefore, the trolley for this ward is delivered after the trolley for F8 and then the round resumes its sequence. Porters from the General Portering Service deliver the meal trolleys and collect them about one hour later.

Just as at Frimley, responses from ward personnel - in this case on six different wards - seem to indicate that the trolleys arrive quite promptly. The earliest times are predictably quoted on two Bulk-food wards and on F1. On these three wards, breakfast seems to arrive about 15 minutes after the belt has started in the kitchen, but lunch seems to arrive on one of the wards at the same time as the belt starts in the kitchen, on another five minutes after this and on the third, 10 minutes later. Exactly the same pattern occurred with supper. It must be stressed that the times quoted are inevitably approximate but they are mentioned as a matter of interest because (a) they demonstrate that the Catering staff must be fairly efficient in their timing and (b) they <u>may</u> give some indication of the speed with which it is possible to load up the trolleys and move them along the Hospital Street. In respect to both these points it must be stated that not one of the six wards claimed that their trolleys arrived at a time which would be later than the times quoted as the close of service in the kitchen. The latest times quoted corresponded with the close of service and again came predictably from one of the last wards on the round.

After the meal, crockery and cutlery that arrived with the trolley is returned to the central wash-up, as envisaged. Isolation, which was to have its own crockery, uses disposables. Wards generally hold a small stock of cups and saucers for use outside the routine services provided by the kitchen.

Summary

In principle the meal service is as planned, but the service to Childrens' ward is plated rather than bulk.

Space for loading the trolleys in the kitchen is cramped.

It has not proved possible to code trolleys with bed numbers because of the movement of patients; this does create some problems of serving at ward level.

Times of service seem to be reliable.

The central washing-up service operates as planned.

6.2 The Beverage Service to wards

Planning policy

In accordance with the Best Buy policy of economy, individual ward catering facilities were kept to a minimum. It was expected that ward staff would only occasionally need to prepare beverages for patients, since a central beverage service was to be provided from the Still Room in the kitchen. This service was to be confined to wards on the first floor (i.e. the majority of wards) since the planners considered it more practical to provide more sophisticated catering facilities to wards, on the ground floor, which are less accessible to the kitchen.

Tea could be infused on the ward at boiler units provided on the Link corridors.

Current situation, Frimley Park Hospital

In addition to the three meal-time services, beverage trolleys are sent out from the Still Room four times a day.

With the exception of the first drink of the day, which is infused in the kitchen, tea is generally infused at ward level, as planned.

On the ground floor the housekeepers on the Geriatric wards prepare

beverages. In the afternoon the kitchen sends down a tray of cakes and biscuits to accompany the tea. Similar provisions are made on the Psychiatric ward.

In summary, this service operates much as planned.

Current situation, the West Suffolk Hospital

The kitchen at the West Suffolk provides a beverage service to wards on the first floor three times a day, mid-morning, afternoon and late evening. Trolleys are taken round by kitchen staff. Hot water and hot milk urns are wheeled round on the trolleys for some of the drinks, but tea is infused at the boiler units on the ward.

Ward staff prepare beverages on the ground floor wards in accordance with planning policy.

6.3 Patient meal services additional to the main ward services

Planning policy

It was planned that patients in the Day and Emergency Ward could be catered for by the Snack Bar. A call-system and hoist between the Snack Bar and the ward were designed to facilitate both the ordering and the delivery of snacks. It was envisaged that, if necessary, Central Treatment could also make use of this facility. Outpatients, of course, could obtain their own snacks from the Snack Bar which is located in the main concourse of the hospital.

Current situation, Frimley Park Hospital

The Snack Bar does provide a snack service for the Day and Emergency ward. A respondent on this ward claimed that this service is exceptional and there are never any problems in obtaining sandwiches,

soups, etc. for their day cases. However, the same respondent was not quite so impressed by the call-system, which is like an old-fashioned speaking tube.

The Central Treatment Suite makes use of the same provision, occasionally, when patients require beverages.

If an evening meal is required for a patient on the Day and Emergency ward, staff simply telephone the main kitchen and provision is made from there. Also it is occasionally desirable that a patient on the Accident and Emergency Department should have a meal and, in such cases, similar arrangements can be made with the Kitchen. Sandwiches would be provided by the Snack Bar, on receipt of a note from nursing staff. The same arrangement applies to departments such as X-ray.

Outpatients would generally use the Snack Bar if they wanted to eat or drink. However, as noted earlier, it is not always practical for 'casualties' to leave the Accident and Emergency Department and thus beverages are now provided on the department.

Resident mothers, i.e. mothers staying with children on the Paediatric ward are intended to obtain their meals from the Snack Bar. However, if they are nursing, their meals are provided from the ward meal trolley and at weekends, breakfasts are generally provided on the ward, since it is only possible to buy pies, sausage rolls, biscuits, etc. from the machines in the Snack Bar.

Summary

As planned, the hoist between Snack Bar and Day and Emergency is used but evening meals may, on request, be provided from the kitchen.

The Accident and Emergency Department may also order meals from the kitchen.

Outpatients' use of the Snack Bar has become less rigid with special beverage provision being made on the Accident and Emergency Department.

Visiting mothers, on the Childrens' ward, may sometimes be provided with a meal from the trolley.

Additional patient meal services, the West Suffolk Hospital

Just as at Frimley, the hoist between the Snack Bar and the Day and Emergency ward at the West Suffolk is used for the provision of food and beverages for patients. The Central Treatment Suite also occasionally uses this facility.

Generally, outpatients would make use of the Snack Bar, as planned, but here, as at Frimley, it is possible for staff to arrange with the Catering Office that meal provision should be made for a patient. If a cup of tea is required and the patient cannot leave the department, a nurse would go to the Snack Bar for the patient.

In the Accident and Emergency Department staff have successfully argued the case for having the necessary equipment and provisions to provide their own beverages for patients. Here, the means to provide drinks is considered to be especially important: as one respondent commented, if staff are dealing with a patient in distress or a bereaved relative a cup of tea or coffee can provide an important element in the caring process; there are times when one cannot send someone into a public area to collect their own drink or, indeed, ask them for money in order that a member of staff can buy the drink.

Space has been found for the kettle and small stock of provisions in the Store room opposite the stretcher entrance of the department. The same Store room continues to accommodate splints, gas cylinders, crutches and even record files. This situation makes it all the more important that awkwardly shaped items such as the splints and crutches should be stored neatly. The adaptation of a rack for splints has already been mentioned: crutches prove to be more of a problem. Here, these are

hung on a rack on the wall, but they have to be rather carefully balanced and it is difficult to keep them in their correct pairs; the problem is temporarily solved by sellotaping them together.

A request is presently lodged, with the Administration, to install a drinks vending machine in the Physical Medicine Department in order that patients will not have to leave the department to obtain a drink during a long wait. At the moment, those patients waiting for hospital transport, for example, are not encouraged to leave the department because of the problem of finding them when the driver arrives.

Summary

As planned, the hoist between Snack Bar and the Day and Emergency Ward is used.

Outpatient use of the Snack Bar has become less rigid than planned with special beverage provision being made in the Accident and Emergency Department. This provision is seen to be a specific aid to the caring process.

It is hoped that some facility can also be installed on the Physical Medicine Department, because it is not always practical for patients to leave the department.

6.4 Provision of meals and beverages for staff

Planning policy

Staff were to have the choice of three facilities: the Dining Room, the Coffee Lounge and the Snack Bar. However, for those unable to leave their posts on some ground floor departments, trolley services could be supplied from the Snack Bar. This latter might also supply snacks to the Education and Administration areas against special orders.

Meals for night staff would be supplied in the Snack Bar.

Only the Operating Department was provided with its own staff catering facility.

Present situation. Frimley Park Hospital

Although staff generally leave their departments for meals, there are one or two areas where staff are now officially permitted to make their own beverages: the Physical Medicine Department and the Central Delivery Suite, for example. There are also some areas where the making of staff beverages may be unofficial. One cannot but sympathise with this practice, since it is time-consuming to leave the department and queue at the Coffee Lounge or Snack Bar.

The Snack Bar serves 130 people per hour throughout the day. Queues have been a problem and, in order to alleviate the situation, an automatic beverage vending machine has been sited in the Administration corridor.

The Snack Bar seems to be popular with staff, though there is no lack of clients for the Dining Room and the Coffee Lounge. The Dining Room serves 250 to 300 staff lunches per day.

A beverage trolley service is provided in the Outpatients' Department twice a day. This, as envisaged, is a Snack Bar service but special services to the Committee room, Doctors' lounge or Education Centre are provided by the Kitchen.

Night staff meals are provided in the Snack Bar, as planned. However, the Catering Manager is concerned that it is the least adequate of the catering services. The provision of hot meals in this area has been difficult, because, although the equipment is there, space is so cramped and ventilation so inadequate that temperatures rise far above a level which is comfortable for staff and thus it is not found desirable to cook behind the counter. What happens now, therefore, is that prepared meals are handed over the counter and the night staff, themselves, heat them in microwave ovens which are located on a wall, opposite the Snack

Bar counter, on the other side of the seating area. Vending machines - containing snacks - are also located in this area for use when the Snack Bar is closed.

The service for night staff includes a range of cold snacks and beverages.

Summary

Contrary to plans there are some departments, in addition to the Operating Department, where staff are allowed to take refreshment on the department.

The Snack Bar provides some trolley services on the ground floor, in accordance with policy.

As planned, night staff meals are provided in the Snack Bar.

Use of the cooking facility behind the Snack Bar has proved difficult, thus staff have been given access to a microwave oven.

Staff meals and beverages, the West Suffolk Hospital

At the West Suffolk, staff in the Central Delivery Suite are now officially permitted to make their own beverages in the department. It will be noted that this divergence from planned policy had also occurred at Frimley because it is not always possible for staff to take breaks away from the department. At the West Suffolk, a staff rest room has been created in the unused Infant Resuscitation Room.

Staff on the Operating Department make use of the pantry facilities provided for the preparation of beverages. Should any snacks be required, sandwiches would be collected from the kitchen.

On other departments, except perhaps Education and Administration, where catering services might occasionally be provided for meetings, etc., staff are expected to use one of the three main facilities for the purchase of meals and beverages. Undoubtedly, just as at Frimley, the unofficial preparation of staff beverages takes place in some areas.

The provision of night staff meals takes place, as planned, in the Snack Bar. Originally staff bought their meals from a vending machine and put them in a microwave oven. This was not very satisfactory since these meals were accessible to people other than the night staff themselves. Now a cook comes in for six nights of the week and prepares egg, bacon, omelettes etc. on the cooking facility provided behind the Snack Bar counter. The service still includes some ready-plated meals, which can be microwaved, and a range of cold snacks. On the night when there is nc cook only microwaved meals are available.

Staff are intended to consume their meals in the Snack Bar area although it is known that meals are occasionally taken away and consumed in the workplace.

Summary

Staff in the Central Delivery Suite, as well as in the Operating Department, are allowed to take refreshment on the department.

The provision of night staff meals takes place in the Snack Bar.

The cooking facility behind the Snack Bar is used in addition to a microwave oven.

SECTION 7 : THE DISPOSAL SYSTEM

Planning policy

1) Sorting of waste and returns

It is stated that, 'The success of the disposal system depends to a large extent upon the proper initial sorting of used goods, for re-use (after processing) or destruction as appropriate. The sluice/disposal areas in wards and user departments are planned and equipped for this purpose. Domestic or other internal staff are expected to classify all the disposable material which is collected and place it in the correct receptacles; the full list of these might be as follows:-

Linen in colour-coded polythene bags:

(a) requiring special preliminary treatment (sluicing etc.)

or (b) for normal laundering.

Other returns in own containers as supplied:

(a) CSSD (including separate category of babies' bottles and teats)

(b) Pharmacy 'empties'

(c) milk bottles (if used)

Refuse in colour-coded paper sacks:

(a) priority incineration

(b) routine

(c) tins for crushing

(d) bottles for crushing

Dry waste paper for salvage may possibly be bundled and tied with string.

Special categories (e.g. used X-ray film, scrap metal from Works Dept., worn furniture, confidential papers for shredding) in bins, etc. as appropriate'. (Planning Policy IID, p. 13)

2) Control of infection

The planners gave a good deal of consideration to control of infection. Apart from the obvious advantages of the design of the ward disposal areas, from which refuse can be collected without necessitating a journey back through main ward areas, it was determined that infection could be adequately controlled by ensuring that staff used the correct receptacles for refuse and sealed bags in an approved manner whenever necessary. It was advocated that methods of disposal should be kept under review by the Control of Infection Officer.

3) Programming of disposal rounds

Tugs and trailers were to be used for the collection of waste. It was felt that it would not be necessary to have disposal trailers in addition to supply trailers, since waste would be 'bagged' and therefore unlikely to cause much soiling. By using the same trailers, the planners reasoned that the necessity to programme supply and disposal rounds for most 'effective and economical' use of tugs and trailers would also minimise traffic in the Hospital Street thus avoiding too much cross-traffic in busy areas.

4) Disposal destinations

All combustible waste was to be burned in the incinerator in the Supply Centre.

Tins and bottles were to be crushed, thus reducing bulk before placing them in bins.

Crushed and incinerated waste was then to be placed in waste bin for collection by the Local Authority.

Returns for Laundry and CSSD were to be held in a bay outside the Sewing Room in the Supply Centre.

Other returns (gas cylinders, milk bottles, etc.) were to be held in convenient places for collection.

7.1 The disposal system at Frimley Park Hospital

1) Sorting of waste at ward and department level (for policy, see No. 1 above.)

In the ward disposal areas, Housekeeping and Nursing staff sort returns and waste into the following categories:-

Linen in coloured nylon bags:

Red for 'foul' linen (usually first wrapped in polythene)

White for soiled linen

Blue for personal linen

Green for theatre linen

Yellow for linen associated with the carrier of an infectious disease

CSSD in white cloth bags.

Pharmacy 'empties' in the drug box.

Milk bottles are simply left on one side. The porters bring milk crates on the trailers in order to collect them up.

Refuse is sorted using a system of colour-coded paper sacks:

Orange waxed bags for wet refuse

Buff sacks for dry refuse

Grey sacks for tins, bottles and aerosols

Needles and other sharp items are put into a separate 'burn bin'.

Dry waste paper is not sorted out from the other refuse.

Discussion

In principle, the sorting system is the same as that planned, although it differs slightly in detail. For example, a category for 'priority

incineration' is not used, for if an item needs immediate incineration, ward or department staff telephone the porters and it is dealt with immediately. All the refuse bags, except the grey, containing tins, bottles and aerosols, are intended for incineration.

Potentially infected waste, such as dressings, would be sealed up in small bags before being put into the wet-refuse orange, waxed bag.

Refuse sorting at ward level

The separation of aerosols from waste intended for incineration has been a cause for concern in the hospital. When put into an incinerator, aerosols are explosive and thus dangerous to the person operating the incinerator as well as potentially damaging to the incinerator itself. However, on the wards, aerosols were finding their way into the wrong refuse bags and thus ending up in the incinerator. This may well have been carelessness on the part of the ward staff, although it has undoubtedly been exacerbated by the fact that patients were placing empty deodorant and hairspray cans into refuse bags, attached to their lockers, and these bags were being gathered, unknowingly, by Housekeeping staff, for placement in the ordinary refuse sacks. A recent education drive seems to be solving the problem. Notices on the wards request patients to hand aerosols to the Housekeepers. Separate cardboard boxes are being introduced for their disposal. However, it remains to be seen whether the campaign will have made a permanent impression on ward staff.

Hypodermic needles have also been a source of danger to the porters disposing of waste. Thrown into ordinary paper sacks they are liable to puncture hands. The Control of Infection Officer has been concerned about the transfer of jaundice by this means. Although, fortunately, such an incident has not yet arisen, it is always necessary to take precautions against the introduction of infection so the hospital has to

ensure that porters receive anti-tetanus injections or any other medical care that such an injury indicates.

As a means of rendering the disposal of needles safe, a container called a 'burn bin' has been introduced. This is a small drum made of strong cardboard. It can be sealed when full. Since the introduction of these bins there have been less incidences of needle-punctures.

The system of colour-coding itself has not been without its problems. Four respondents from the wards and departments mentioned that the colours are always changing. In making further enquiries about this, it was discovered that the first change of colours had come about because the refuse bags in use at Frimley were different from those in use elsewhere in the District and it was considered that it would be advantageous to create uniformity. However, the new refuse bags were found to be the wrong size for the holders provided in the disposal rooms, thus it was concluded that the old system of colours would have to be retained. This decision was thwarted, however, by the fact that the supplier had ceased to manufacture one of the colours! Under these circumstances, it is not difficult to understand the confusion of the staff. On several departments, however, notices in the disposal rooms act as useful reminders.

It is apparent that wards are not always consistent in their use of refuse bags. In broad terms ward staff understood the distinction between the colours. However, during the course of interviews respondents mentioned variously that disposable syringes were put in the same bag as glass (i.e. the grey one) or the bag for wet waste - the orange one. Where staff claimed that syringes were placed in grey bags they also offered the reason that plastics have been clogging up the incinerators, but it appears that this information has not permeated the whole

hospital. The measure of confusion over this matter is evidenced by the fact that, on at least one department, syringes are kept separate from the refuse, in a bag marked 'syringes', so that the choice of disposal can be left to the porters. The information that obviously had reached all staff was that it was unnecessary to put the whole syringe in the 'burn bin' although the manufacturer has labelled this receptacle with the legend 'syringes' as well as 'needles'.

It is understood that, both because the burn bins are bulky yet will hold few complete syringes and because plastics have been causing a problem in terms of incineration (see p.187) a notice has been circulated, within the hospital, to the effect that, in terms of control of infection, while it is necessary to immediately seal and thence to incinerate syringes - i.e. the body of the syringe rather than the needle - that have been used for taking blood, this procedure is not as vital for the syringe that has contained a substance for injection.

Linen sorting at ward level

In addition to the problems caused by the inadequate sorting of refuse at ward and department level, a problem of a rather different nature is caused by the inadequate sorting of linen for treatment by the Laundry.

At the Laundry, the facilities for dealing with fouled or infected linen are stretched to capacity by the large amounts that are sent by the hospital. It is suspected that much of this linen is neither fouled nor potentially infected: rather what happens when a patient fouls a sheet, for example, is that nurses fold all the bedding together and place it in one bag instead of separating out the items. The Farnham Laundry finds that fouled or infected linen constitutes 30% of their workload as opposed to 10%, which is a national average. It might, of course be unwise to place too much credence on figures of the 'national' average

without further investigation: it is certainly unlikely that the inadequate sorting of linen is a local problem, although one does not doubt that it occurs. In a sense, one can sympathise with nursing or housekeeping staff who, pressed for time, take short-cuts. But if these short-cuts cause delays in processing at the Laundry, it is ultimately the hospital that suffers because a percentage of linen will be held up in the system.

In an attempt to solve these problems, educational programmes do exist at Frimley Park Hospital. Indeed, nursing staff are encouraged to visit the Laundry so that they become aware of special problems. If, as seems to be the case, these educational programmes are of limited success, it is possible either that they do not reach sufficient numbers of people, or that their impact is not lasting enough or - and this is quite insoluble - that work priorities are such that some details can never assume sufficient importance in the eyes of the hospital staff. Undoubtedly these are matters which have vexed the minds of senior personnel in the hospital service for many years and will continue so to do.

In the particular case of linen-sorting, the only alternative to educating ward staff would seem to be to accept that the bulk of items sent as fouled or infected are actually neither but, nevertheless, to create adequate facilities to deal with them as if they were. In a sense this is already happening at the Farnham Laundry, where modification of the 'fouled or infected' washing facilities, to speed throughput, are in progress.

Some problems, however, can only be solved by educating the staff. One such is the danger to porters and Laundry staff caused by hospital staff forgetting to turn out their pockets and ensure that no sharp objects

find their way into the linen bags.

A discussion of linen-sorting at ward level is incomplete without mentioning that ward staff are sometimes foiled in their attempts to classify items by the fact that supplies of the coloured bags are not always adequate. Red linen bags were mentioned in this context. It may be that supply of these is low because of the expectation that there would be less demand for them than there is. Whatever the reason, the accepted solution to the problem is to seal the fouled linen in an orange plastic bag - which some wards mentioned they used inside the red bag anyway - and then put this inside an ordinary white linen bag.

Specialised departmental procedures for the sorting of waste and returns

On some departments disposal procedures are required to be more rigorous than elsewhere. On the Pathology Department, for example, all plastic disposables - syringes, vials, tubes - and all items disposed of in the Bacteriology Section are 'rendered safe' before they leave the laboratory i.e. they are autoclaved to destruction.

Such procedures were planned for, but the amount of waste to be treated is considerable and the original autoclave provision has had to be supplemented.

Procedures for the movement of supplies and waste in the Operating Department were considered critical enough to warrant specific treatment in the planning policies; these will be discussed as a separate subject in Section 8. Here, perhaps, it is only necessary to mention that Theatre linen is distinguished from other hospital linen by the use of green nylon bags. All linen from this department is treated as infected. There is an additional category which is dealt with by the Laundry as a priority: this consists of the special suits which are used with the

recently acquired Charnley tent. Staff at the Laundry have created a further variant on the colour-coding system by sewing stripes onto an ordinary Laundry bag. The Charnley tent items have to be laundered and returned immediately to the hospital, since there is only one of its type in the District, and the supply of suits for it is limited both by this and by the expense of the items concerned.

Special procedures also have to be employed on the Isolation ward. Here, nurses wear gloves and pinafores to sort linen and waste into their correct bags. Full bags are left adjacent to the outside doors of the Unit, where the porters can collect them without taking them through the hospital. Such a procedure is not mentioned in the planning policies but has become adopted as operational practice. It is made possible because of the particular siting of the Unit. Certainly the provision of the outside door was intended to make it possible to access the Unit without traversing the main Hospital Street.

Discussion of local disposal facilities

The juxtaposition of disposal room both to the nurses' station and the Link corridor, opening off the Hospital Street, is a design feature of the majority of wards in the Best Buy hospitals (see fig. 11). Its location has obviously proved a great success, for none of the respondents interviewed on these wards complained of disturbance caused by the regular collection of waste, laundry and CSSD returns from these areas. However, the section of the disposal room opening onto the corridor, where filled bags await collection, does tend to get congested at times. It has already been mentioned that this situation is exacerbated by the fact that the same area frequently has to be used for the storage of large boxes of disposable bed-pans, etc. It has further been mentioned that, if the area gets too cluttered, ward staff can

telephone the porters, who will remove all the refuse and returns promptly.

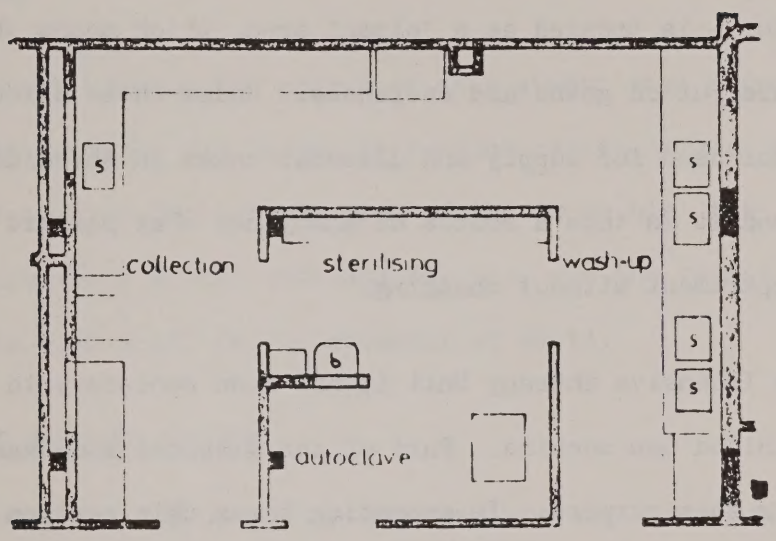
There is some feeling in the hospital, however, that the inadequate size of disposal rooms leads to the dumping of rubbish, linen bags, etc. on the Hospital Street. During the two week period of this study, there were some departments outside which, at certain times of the day, items awaiting collection could consistently be seen on the Hospital Street. However, at that time this did not seem to apply to the above-mentioned wards. Furthermore, on one of the departments where it did occur, Housekeepers claimed that they put the refuse and returns outside the main entrance of the department three or four times per day, presumably so that the porters did not have to enter the department - this being a department where the disposal room was not so easily accessible from the Hospital Street. Thus the fact that refuse is found waiting on the Hospital Street does not always indicate that it has overflowed the disposal rooms.

There are some departments, however, where local staff do have complaints about the area allocated to disposal or its relation to other facilities.

In the Pathology Department the autoclaving of waste from the laboratories takes place in the central compartment, so to speak, of a room where general cleansing functions are carried out - the washing of laboratory glassware etc. (fig. 13). When the various autoclaves, drying cabinets and washing machines are in operation, the whole of this area becomes uncomfortably hot and the smell of autoclaved waste is most unpleasant. The only way to increase ventilation in this area and to dispel the smell a little is to prop open a door at the opposite end of the Pathology Department.

The inadequacy of kitchen disposal facilities has already been mentioned.

FIGURE 13



PATHOLOGY DEPARTMENT
WASH-UP AND DISPOSAL ROOM

In major part it is believed that it was the amount of waste created by convenience foods that was misjudged by the planners.

In the Central Delivery Suite concern about the location of the disposal room occurs because the method of working in that area is a little different from that planned. Planning policies distinguish between a normal delivery area and an abnormal delivery area which is a 'clean' area. At Frimley Park, however, the entire area - except the reception corridor - is treated as a 'clean' area, which means that staff and visitors put on gowns and overshoes. Under these circumstances, the corridor used for supply and disposal comes in the middle of a 'clean' area and it is thus a source of annoyance that porters come right into the department without changing.

In the Intensive Therapy Unit it has been necessary to find bench-space for a Blood Gas machine. Part of the disposal room has been partitioned off for this purpose. In operating terms this section is now a 'clean' area and it is unfortunate that, in order to reach that part of the disposal room which remains accessible to the Hospital Street, it is necessary to carry dirty instruments, soiled linen and refuse through this 'clean' area.

Both these last examples are cases where changes from the planned use of facilities have created problems. But they are, nevertheless, responses to the requirements of particular working patterns. It is inevitable that techniques and patterns of working will change over a period of time. However, the two examples cited, although not in themselves the subject of major disturbance to work on the departments concerned, are reminders of the difficulty of reconciling specific ideals - in this case the desirability of separating disposal functions from 'clean' functions - with an infinite flexibility both in design

and in patterns of space-use.

2) Control of infection (for policy see No. 2, p. 172)

The Control of Infection Officer at Frimley Park Hospital expressed views that were in accordance with those of the Best Buy planners, namely that if procedures are good, the incidents of cross-infection will be kept to a minimum. He had no detailed criticism to make of the disposal system.

It has become apparent, during the course of this study, that disposal arrangements in the hospital are indeed kept under review. This is evidenced by the fact that the introduction of the 'burn bin' for needles is a comparatively recent event and so, too, was the latest campaign to educate ward staff in the disposal of waste.

3) Programming of disposal rounds

The universality of the hospital's tugs and trailers has, as already noted, been restricted by the fact that the Main Stores has a tug and trailers exclusively for the conveyance of supplies. Thus, as a general rule, supplies trailers do not double as disposal trailers. Currently, Frimley has one red cage-type trolley that it uses only for refuse but there is also one trailer (cage-type, but yellow rather than red) which may be used for carrying sterile supplies and cylinders as well as collecting soiled items for return to Laundry and C.S.S.D.

It will be evident, therefore, that the programming of disposal rounds does not take account of the movement of the Stores' tug and trailers. In this respect, the use of tugs and trailers is undoubtedly not as efficient as the planners hoped but, in the circumstances in which the Main Store, currently supplies goods, programming of tug rounds has evidently been considered inappropriate for them. Indeed, since the

programming of deliveries - other than those which are made in response to fortnightly requisitions - depends so much on external factors such as the times at which deliveries are made to the hospital itself, it does seem likely that a complete system of tug programming would have been subject to all kinds of hold-ups.

In the present system, one tug is used for Stores, one for the collection and delivery of CSSD and Laundry and one for the collection of refuse. The possibility of all three being on the Hospital Street at the same time is quite high, therefore. But whether this constitutes a particular problem in terms of congestion in the Hospital Street is not clear. See discussion p. 97.

Comparison of the planning team's suggested programme of tug deliveries and collections with the schedule currently operated at Frimley Park Hospital is presented on p. 186. It will be noted that one tug does six scheduled runs every day to collect refuse. These are not complete rounds of the hospital each time but, according to a work schedule devised for the porters operating the incinerator, all refuse areas are cleared at least four times per day. Responses from some ward personnel indicated that the refuse collection service might not be so frequent but, since the refuse collection point cannot generally be seen from the ward, these responses might not take account of the times porters check to see whether waste is building up. Besides, although the porters might overlook some areas periodically, there were few complaints about the adequacy of the service. Furthermore, two respondents mentioned that if waste was building up a telephone call to the porters would ensure that the matter received attention.

Collections of linen and returns for CSSD are made periodically, throughout the day, to fit in with the delivery of those items.

Refuse collection from the kitchen

In addition to the trailer that is used for the collection of refuse from the majority of wards and departments, there are three linen trolleys - modified - outside the kitchen, which are used for refuse from this area. This provision is made necessary by the fact that disposal facilities in the kitchen have been unable to cope with the large quantity of refuse generated by the use of convenience foods. There is, in the kitchen, a waste disposal unit for foodstuff, but empty tins, cardboard etc. are collected in the trailers. The towing of these trailers down to the refuse area forms part of the scheduled refuse collection rounds.

Although parking these trailers outside the kitchen alleviates the problem of waste disposal in this area, the provision is not ideal. First, it inevitably leads to problems of congestion in the Hospital Street because the trailers are large and, of course the kitchen generates a good deal of trolley traffic at certain times of the day. Second, in summer at least, the smell is reputed to be unpleasant and, in a public area, this is not likely to create a good impression of the hospital.

5) Disposal destinations

Combustible waste

There are two incinerators in the Supply Centre. These, as planned, are used for burning all combustible waste, i.e. refuse in the orange and buff sacks from the wards and departments plus, for example, combustible refuse from the kitchen trailers and other items which may be designated 'for incineration'.

One respondent expressed dissatisfaction with the route to the

Comparison of planned and current tug schedules Frimley Park Hospital

Planned schedule (taken from Supplement to Planning Policy IID)

Tug No. 1	07.00	Milk round
	08.45 - 09.45	Collect Pharmacy boxes
	09.45 - 12.00	Stand-by
	13.00 - 14.00	Linen delivery
	14.00 - 16.00	Stores delivery
	16.00 - 17.30	Pharmacy box deliveries (First floor)
	17.30 - 19.00	Delivery and collection of meal trolleys
Tug No. 2	07.30 - 09.00	Delivery and collection of meal trolleys
	09.00 - 11.00	Linen delivery
	11.00 - 13.00	Delivery and collection of meal trolleys
	14.00 - 16.00	Delivery of stores and collection of returns
Tug No. 3	07.00 - 10.00	Collection of rubbish
	10.00 - 11.00	Collection of returns
	12.00 - 16.00	Stand-by duties
	16.00 - 17.30	Delivery of Pharmacy boxes (ground floor)

Current schedule

Tug No. 1	a.m.	Collects and delivers linen bins (and, where time permits, collects soiled linen)
	p.m.	Delivers clean sterile supplies and collects soiled linen (until 17.00)
Tug No. 2	08.00 10.00 12.00 15.00 18.00 21.00	Collects refuse
Stores Tug		Ad hoc deliveries throughout the day.

incinerator room. His comment was that it is not possible to manoeuvre tugs in this part of the Supply Centre and that trailers therefore have to be man-handled from the 'Distribution' area. Further, there is insufficient space in the incinerator room itself to accommodate the trailers, which are thus left in the corridor where they cause congestion.

Additionally, it is felt that the incinerators themselves are not of good design from the point of view of safety. Following accidents with the aerosol cans it is judged that a 'remote-loader' would be far less dangerous for operators than the current arrangement where the operators stand in range of the open door. Additionally, the incinerators have not proved adequate to cope with the quantities of plastic waste that are burned and they have thus been a 'perpetual headache' for the Engineering Department.

It is found that, in order to consume plastic, the incinerator must always be loaded with a certain amount of readily combustible waste. However, cardboard is no longer burned as it was found to cause fly-ash, which became a subject of complaint for residents in the vicinity of the hospital.

The task of incineration is thus not as straight forward as one would imagine. Indeed, in order to cope both with the heavy workload and with the particular idiosyncracies of the incinerators, the hospital has found it necessary to designate two porters solely to the task of refuse collection and incineration. This move has evidently been a successful one, as reported problems have become less frequent.

Tins and bottles

At the time of this study, the crusher for tins and bottles was out of

action following a fire in the Supply Centre. These items were therefore being put straight into bins for collection by the Local Authority. Even when it is in action, however, the crusher is not felt to be very efficient since it only takes two or three bottles at a time.

Incinerated waste and other refuse

All refuse - except of course large items - is finally put into bins for collection by the Local Authority. The bins are located outside the 'bins and bottles' area of the Supply Centre (fig. 3). This area itself is full of cardboard which, as mentioned earlier, is no longer burned.

Local Authority refuse collections are made three times per week. However, rubbish does tend to build up, and indeed, one respondent felt that inadequate provision had been made for the storage of rubbish awaiting collection. No doubt the situation is aggravated by the fact that the Local Authority empties a maximum of six dustbins at each visit, regardless of the fact that there may be more - these are large dustbins, of course, with a much greater capacity than a domestic dustbin. However, if the incinerators operated efficiently and the crusher was in action, one imagines that the compacting of rubbish would also be more efficient and that the present problem would not be quite so severe. Nevertheless, it is felt, in some quarters, that the amount of waste generated by the hospital has been underestimated, though this is not surprising as it is alleged that Frimley has a higher workload than anticipated.

Items for return

Returnable bottles, while not increasing the bulk of waste, cause their own problems for the hospital. The quantity of milk bottles, for example,

is far in excess of the crates available for them and thus the task of collecting them is a tremendous problem for the porters and, one imagines, for the milk supplier. It is assumed that staff, both in the residences and the hospital itself, must be buying milk and then leaving the bottles for collection in the normal way. The number of returned milk bottles certainly seems to exceed that actually bought by the Catering Department. Within the hospital, porters solve the problem of collecting stray milk bottles by wiring milk crates to the refuse trailer so that they are always to hand. It was noted earlier, that attempts are being made to reduce the number of 'official' milk bottles held on the wards, by introducing disposable packs.

Other returnable bottles, such as some beverage bottles sold by the WRVS shop, do not constitute such a problem and, indeed, a contract exists with the supplier for the return of money on these bottles.

Returnable items are held in various places, generally where they can be collected easily by the vans supplying the same items full. The location of returns for CSSD and Laundry has already been mentioned, so too has the location of gas cylinders outside the same holding bay. Most catering returns are held on the Main Stores Loading Bay.

Summary

Frimley Park Hospital - sorting of waste and returns

In principle, the coding of waste is similar to that planned.

In accordance with plans, waste from the Pathology Department is autoclaved, as necessary, before it leaves the department. The original autoclaving provision has proved inadequate.

The disposal of aerosols and sharp items has been a problem. The situation is improving as a result of education and, in the case of sharp items, as a result of the introduction of a sturdy disposal container.

Generally, staff seem aware of procedures, but some confusion over the disposal of syringes was found.

It is felt that sorting of linen on the ward could be improved. A problem is posed, from the management point of view, in educating staff in the matter of sorting waste and returns.

Sometimes correctly coded bags are not available.

Disposal facilities

Location of disposal rooms on wards is found to be good from the point of view that porters collecting waste and returns do not have to enter the main area of the ward.

In Central Delivery Suite, the location of the disposal room has become inappropriate from the point of view of porters collecting waste because a change in policy has designated the surrounding area 'clean'.

In the Intensive Therapy Unit part of the disposal area is now used to accommodate a laboratory function: unfortunately waste has to be carried through this area.

Waste awaiting collection is found on the Hospital Street outside some departments. Sometimes this may be because it has overflowed disposal rooms; sometimes it is left there as a matter of convenience.

The ward disposal rooms do tend to get cluttered at the point where refuse and returns are collected.

Disposal facilities, particularly in the Pathology Department and the kitchen, are felt to be unsatisfactory. For kitchen waste, trolleys have to be left in the Hospital Street.

Collection of waste and returns

Waste and returns from the Isolation Unit are left for collection inside the door which leads to the exterior of the department. This was not a measure specified in the planning policies, but ensures that the waste does not pass through the main Hospital Street.

In general, trailers used for supply are not used for disposal; this is contrary to planned policy.

Two types of trailers are used for waste disposal because three enclosed trailers have had to be located outside the kitchen to receive waste from that area.

Planning policies suggested central co-ordination of supply and disposal rounds: in practice this does not occur.

The disposal service is found to be adequate although it is sometimes necessary to make special runs to particular wards and departments.

Disposal destinations, i.e. the points at which waste is held for final collection are much as planned.

The hospital has had some problems with the incinerator.

The crusher for tins and bottles, when in operation, is judged to be

small.

The route to the incinerator and crusher is not felt to be satisfactory for manoeuvring trailers.

Some problems are encountered in coping with the build-up of waste awaiting collection by the Local Authority.

Returnable milk bottles have posed problems of collection.

7.2 The disposal system at the West Suffolk Hospital

1) Sorting of waste at ward and department level (for planning policy see No. 1, p. 171)

At the West Suffolk, Housekeeping and Nursing staff sort returns and waste into the following categories at ward level:

Linen in coloured bags,

Red nylon or plastic for foul linen

Yellow/white cloth for soiled linen

White plastic, containing alginate bag, for potentially infected linen

Green cloth for Theatre linen

Blue cloth for baby linen

CSSD in clear plastic bag, sometimes contained in large drum.

Pharmacy 'empties' in the drug box.

Refuse:

Yellow plastic bag for burnable items

Green plastic bag for non-burnable

Sealed cardboard box for broken glass and sharp items

Special cardboard box for used needles and syringes

Dry waste paper is not separately sorted but, at whole hospital level, cardboard is.

Discussion

In principle, this sorting system, like the one at Frimley, differs

from that planned only in detail. Once again, there is no 'priority incineration' category, but waste from Isolation would be incinerated without delay, as would waste from Theatres if the staff telephone the porters to ask them to make a special collection.

Refuse sorting at ward level

Here, as at Frimley, aerosols sometimes find their way into waste that is intended for burning. However, frequent reminder notices in the hospital's monthly magazine seem to be successful in reducing the problem.

Ward staff are not always careful to dispose of needles in the correct receptacles and incidents of porters suffering needle punctures are not uncommon. Here, again, measures are taken to ensure that the porters suffer no ill effects and fortunately there has, as yet, been no serious outcome. However, while such incidents occur, it might be worthwhile to consider not only how best to ensure that staff employ the correct procedures but also whether the receptacles used for waste disposal could not be improved. Certainly some staff on the wards felt that the cardboard boxes used for the disposal of needles and syringes are rather flimsy and provide little resistance, especially at the corners, to the passage of a needle through to the outside.

As a matter of interest, it is judged that more errors occur in the classification of waste during the night than during the day time. Is this, perhaps, because the smaller numbers of staff are under more pressure or because staff who do not normally deal with the sorting of waste in the disposal room are, at night, expected to do so? Is it a case of not being able to find the correct receptacle or is it that colour codes change?

Here, as at Frimley, the system of colour-coding has not been without

its problems. During the course of this study it was mentioned that the bags for waste and returns are perhaps not distinct enough one from the other. For example, it has been known for soiled linen to turn up in a yellow plastic bag, destined for the incinerator, rather than a yellow cloth bag, destined for the Laundry! Such incidents may be few and far between, but it is easy to see why they happen.

Sometimes, of course, ward and department staff simply cannot find the correctly coded bag when they need it; in this case they would generally label another bag appropriately.

Linen sorting at ward level

It is judged that the sorting of linen at the West Suffolk has improved during the last two years. Publication, within the hospital, of problems encountered by the Laundry seems to have brought the percentage of 'fouled' linen down, thus it seems likely that here, as at Frimley, staff had been treating as 'fouled' some items of linen which could really be classified 'soiled'.

Currently, fouled linen from the District constitutes about 19% of the Laundry workload. This figure should not be directly compared with that for the Laundry serving Frimley, because it has been outside the scope of this study to learn more about the catchments of the two laundries, and because the Laundry serving the West Suffolk can distinguish potentially infected linen from fouled linen, so it may not be justifiable to assume that the above figure includes both categories - it will be remembered that the 38% figure for the Farnham Laundry was for fouled and infected linen. At the West Suffolk, the Isolation ward - where all linen is treated as potentially infected - has its own supply of special linen bags. These bags are designed so that, in contact with hot water, the stitching will dissolve thereby depositing

the contents in the wash, this means that once linen is inside the bag it is not necessary for anyone to handle it directly until it has been cleaned. The special bags go into white plastic bags for transportation to the Laundry.

Red nylon bags are being gradually introduced to take the place of red plastic bags for 'fouled' linen. It was found that a tendency to over-fill the plastic bags led to them bursting. This had proved a great problem since porters, understandably, were not prepared to pick up items of fouled linen which were spilling out of the bags. Even now, lack of care on the wards with regard to tying-up the tops of the linen bags can lead to similar problems of overspill on the collection bay.

Specialised departmental procedures for the sorting of waste and returns

Departments where special disposal procedures are carried out are the same at the West Suffolk as at Frimley. The Pathology Department autoclaves waste, as necessary, before it leaves the department. Here, unlike Frimley, the single autoclave is found to be adequate.

On the Isolation Unit waste is double-bagged before it is left for collection. Linen is placed in the special bags described earlier. Here, waste and returns are left for collection via the Hospital Street end of the Unit, rather than from the outside door used at Frimley. However, one respondent commented that porters collecting waste are encouraged to leave Isolation until last so that the bags will not be crushed and burst by others thrown on top.

Disposal procedures in the Operating Department are discussed on p. 212.

Local disposal facilities

Here, as at Frimley, none of the respondents on first floor wards

complained of any disturbance caused by the regular collection of waste, laundry and CSSD. This factor must surely be attributed to the careful siting of the disposal room which has made it so easily accessible to the link corridor as well as to the nurses' station. However, it was on a couple of the same wards that respondents mentioned the problem of build-up of waste and returns at the corridor end of the disposal room. One respondent felt that it was not so much a case of the disposal room being too small as of the ward being too large; the point she was making was that 36 beds create a 'tremendous' amount of soiled linen and waste. However, even on the 24 bed Children's ward it is claimed that the disposal room fills up frequently, although a telephone call to the porters will ensure that the room is emptied even outside the regular collection times.

During the period of this study, bags awaiting collection would be seen frequently outside one or two first floor departments and in some areas on the ground floor Street. Indeed, the porters are informed of those areas where they should expect to find waste awaiting collection on the corridor, so it has evidently become an established practice.

One respondent, on the ground floor, commented that, if asked to empty the disposal room, the porters would sometimes come and remove the bags, then leave them on the Hospital Street to be picked up on a later collection round. Here, as at Frimley, it was unusual to see waste bags outside first floor wards.

Particular difficulties with local disposal facilities seem to occur in the Kitchen and Snack Bar and in the Pharmacy. To cope with waste from the Kitchen a large trailer of the type used for linen has been adapted to the purpose. It is located in the Hospital Street outside the Kitchen. Another of these trailers is located under the stairway close

to the Snack Bar.

The large waste disposal units in the Kitchen are not found to be satisfactory. Apparently they are supposed to be used once a day to take all the food waste that has been collected, but they are slow to consume waste and this, combined with the fact that the water is cold, makes the process very messy. Catering staff prefer the smaller waste disposal unit used in the Snack Bar.

In the Pharmacy Department, original design included no special provision for disposal. Staff therefore left full bags of waste in the Hospital Street near the exit from a Store adjacent to the Dispensary. However, this met with the disapproval of the local Fire Officer, so the only solution was to increase the number of collections of waste made from Pharmacy.

Pharmacy has the additional problem that it disposes of quite a number of glass items. These must be placed in cardboard boxes rather than polythene bags but the cardboard tends to increase the bulk of waste.

Old tablets and ampoules are thrown into two pedal bins in the Dispensary. When these are full a telephone call is made to the porters; a Charge-hand then arrives to take the contents of these bins to the incinerator On the day this department was visited the bins were already nearly full at 10.00 a.m.

There are one or two items that cannot be incinerated or flushed down a sink. Arrangements for the disposal of these toxic substances are made by the Area Pharmacist.

2) Control of infection (for policy, see No. 2, p. 172).

If procedures are followed carefully and all potentially infective waste

secured in impervious bags, then adequate attention has been paid to the control of infection. This is the view held at the West Suffolk as well as at Frimley. The routing of waste is felt to be of secondary importance to care in handling.

There is, however, one aspect of disposal about which the Control of Infection Officer has his doubts. This is the disposal of excreta. On the wards, disposable bed-pans and urinals are disposed of in machines that have become standard equipment in hospitals. The West Suffolk has had some problems which are simply the result of the machines breaking down, but what is of more concern is the possibility that these machines might produce 'aerosols', bacteria carried from the excreta in droplets of water as a result of the splashing which occurs in the process of disposal. The more traditional method of cleaning non-disposable bed-pans in steam is not necessarily considered to be better, it is simply that there is some feeling that present methods of disposal are not entirely adequate from the point of view of control of infection.

It should perhaps be mentioned that, in one of the ward disposal rooms visited during the course of this study, the ceiling above the bed-pan disposer had been discoloured by the explosive result of the machine lid flying open while the disposer was in operation.

3) Programming of disposal rounds (for policy see No. 3, p. 172)

Here, as at Frimley, one of the three hospital tugs is used only by the Stores staff and its use is programmed independently of the tugs used by the general portering staff for rubbish collection and for delivery and collection of linen and medical gas cylinders.

Porters are instructed not to carry clean and dirty linen on the same

trailer and, indeed, the trailers used are generally of different types: low flat trailers are used for bags and boxes of clean linen - most of the linen, of course, is delivered in the ward linen trolleys which are reserved specifically for that purpose - cage-type trailers are used for the collection of dirty linen. Refuse is collected in bin trolleys, which have the same basic structure as the linen trolleys but have no shelves.

The number of refuse collections from wards and departments seems to vary according to the build-up of waste in different areas. Basically, four rounds are made each day, but these are not complete rounds of the hospital. Of nine respondents from different wards and departments, two from ground floor departments thought that one collection was made from their department each day, six respondents from wards and departments on both floors thought there was a collection two or three times per day from their departments and a respondent from the Catering Department thought that collections from the kitchen were made three or four times a day. Indeed, porters are instructed that extra collections may need to be made from the Kitchen. A fifth collection round is scheduled for waste left in the corridors only.

Collections of dirty linen are scheduled for twice a day but, as noted earlier, disposal rooms will be emptied more frequently if necessary.

Comparison of the tug programme with that suggested in the planning policies can be seen on p. 200.

4) Disposal destinations (for policy see No. 4, p. 172).

Combustible waste

The two incinerators in the Supply Centre take all the combustible waste from the hospital except cardboard. This, it will be remembered is true

at Frimley also. The West Suffolk has been fortunate in finding that the cardboard can be sold.

Again, as at Frimley, it has been found that, in order to avoid dense smoke caused by the burning of plastics and rubber, it is necessary to load the incinerators with a good proportion of normal waste in addition to these materials.

One respondent felt that the incinerators cope very well with the load of waste considering that they are both in daily use. However, they do occasionally need maintenance and, at these times, the waste is apt to build up. This build-up may be dealt with in one of two ways; either a porter will put in overtime to clear the backlog or it will be arranged for the waste to be taken off-site for incineration.

Tins and bottles

The crusher in the Supply Centre is used to condense tins and bottles before they are thrown into bins for collection by the Local Authority. It is not as efficient as it might be as it is too small to accept large cans.

Incinerated waste and other refuse

Refuse awaits collection by the Local Authority in the area designated 'bins and bottles' (fig. 5). The twice weekly collections have now been reduced to one. However, the build up of waste is not seen as a particular problem.

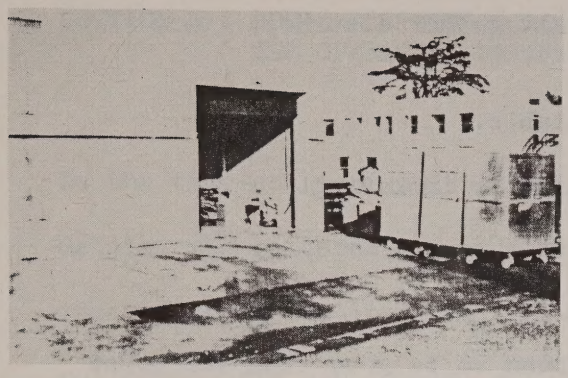
Comparison of planned and current tug schedules The West Suffolk Hospital

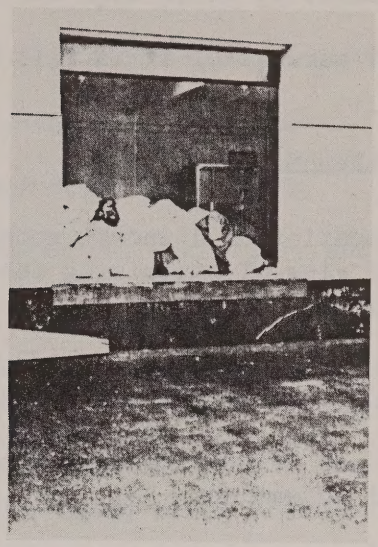
Planned schedule (taken from Supplement to Planning Policy IID)

Tug No. 1	07.00	Milk round
	08.45 - 09.45	Collect Pharmacy boxes
	09.45 - 12.00	Stand-by
	13.00 - 14.00	Linen delivery
	14.00 - 16.00	Stores delivery
	16.00 - 17.30	Pharmacy box deliveries (first floor)
	17.30 - 19.00	Delivery and collection of meal trolleys
Tug No. 2	07.30 - 09.00	Delivery and collection of meal trolleys
	09.00 - 11.00	Linen delivery
	11.00 - 13.00	Delivery and collection
	14.00 - 16.00	Delivery of stores and collection of returns
Tug No. 3	07.00 - 10.00	Collection of rubbish
	10.00 - 11.00	Collection of returns
	12.00 - 16.00	Stand-by duties
	16.00 - 17.30	Delivery of Pharmacy boxes (ground floor)

Current schedule

One of two tugs	07.30 - 08.30	Collection of dirty linen
	08.30 - 12.00	Delivery of clean linen trolleys/ collection of empties
	12.00 - 13.00	Collection of dirty linen from first floor
	14.00 - 17.00	Collection and delivery of linen
	08.00	Refuse collection
	11.00	" "
	14.00	" "
	16.00	" "
	21.00	(collection from corridors only)
Stores tug	08.30	Bulk milk delivery to Catering Dept.
	08.40 - 09.15	Collection of drug boxes from first floor
	09.15 - 10.15	Topping-up of disposable bed-pans, etc.
	10.30 - 11.30	Delivery of requisitioned items
	11.30 - 12.00	Delivery of pharmaceuticals to Pharmacy
	12.00 - 12.40	Delivery of drug boxes to wards
	12.45 - 13.00	Delivery of special orders
	14.00 - 14.45	Collection of drug boxes from ground floor
	14.45 - 15.30	Delivery to Catering Department
	15.45 - 16.30	Delivery of stores
	16.30 - 17.30	Delivery of drug boxes to ground floor wards





Laundry and CSSD returns await collection on the Dirty Linen Bay (fig. 5)

Other returns are held in appropriate places for collection by commercial suppliers. Gas cylinders, as mentioned previously, are left outside the Cylinder Store. Catering returns - milk crates, bakery trays, etc. are generally left on the Main Stores Loading Bay.

Summary

The West Suffolk Hospital

Sorting of waste and returns

In principle, the system of coding waste is similar to that planned; it differs only in detail.

Waste from the Pathology Department is autoclaved as planned.

Waste on the Isolation Ward is double-bagged. Here a special type of bag is used for linen; the bag does not have to be emptied in the Laundry as the stitches are soluble in hot water.

Procedures are felt to be adequate in respect to control of infection.

Ward and department staff are not always careful to separate aerosols from combustible waste and to render safe the disposal of sharp items. The education process is on-going.

The colour-coding of receptacles is not altogether distinct; this has led to problems.

Correctly coded bags are not always available.

At ward level it is felt that linen sorting is improving.

Disposal facilities

Location of disposal rooms on wards is found to be good from the point of view of minimising the disturbance caused by the collection of waste.

The ward disposal rooms sometimes get congested at the point where waste and returns are collected.

There is some concern about bed-pan disposers in relation to the control of infection.

Disposal facilities, particularly in the Kitchen, Snack Bar and Pharmacy are felt to be inadequate.

Collection of waste

Generally, trailers used for supply are not used for disposal: this is contrary to planned policy.

Supply and disposal rounds are not centrally co-ordinated.

Holding areas for waste and returns are basically the same as planned.

Special procedures are necessary to ensure that there are no problems with the incinerator. The crusher for tins and bottles is found to be rather small.

The build-up of waste awaiting collection by the Local Authority is not considered to be a problem.

SECTION 8 : LOCAL DISTRIBUTION AND DISPOSAL OF COMMODITIES WITHIN THE OPERATING DEPARTMENT

In the time-scale of this study it has not been possible to follow, in detail, the patterns of movement of consumable items once they have reached their destinations. However, in the departmental planning policies there are several departments where procedures for supply and disposal are mentioned in some detail. In the following section the current procedures of one such department, the Operating Department, will be compared with planning policies. This department has been chosen because the particular nature of the work taking place within it requires that special attention should be given to the handling of goods entering and or leaving.

Operating Department

Planning policy: supplies

A) Departmental supplies

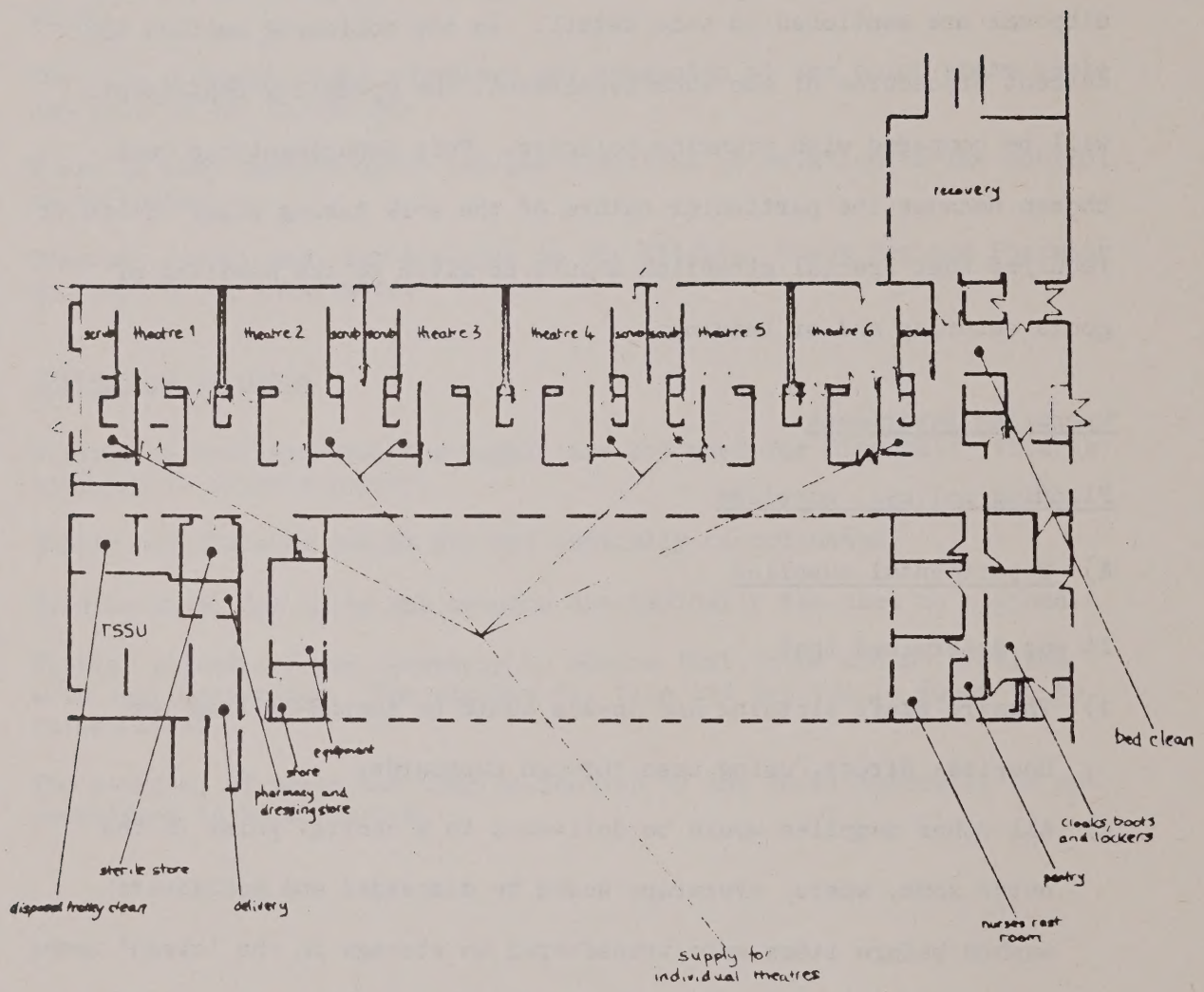
It was determined that

1) Theatre staff clothing and towels would be topped-up from the Hospital Street, using pass-through cupboards,
2) All other supplies would be delivered to a central point in the outer zone, where overwraps would be discarded and containers washed before items were transferred to storage in the 'clean' zone; e.g. crates containing sterile fluids would be washed and taken to the Pharmacy Store.

NB. By studying the plan (fig. 14) one can determine that the 'central point in the outer zone' is the area marked 'delivery' adjacent to the TSSU. It would also seem likely, from the plan, that catering provisions were intended to enter the department from the opposite end,

FIGURE 14

OPERATING DEPARTMENT



where the staff facilities are located. Otherwise they would be making an unnecessary journey through the main 'clean' corridor of the department.

B) Individual Theatre supplies

1) Individual Theatre supplies of fluids would be topped-up per session from the Pharmacy Store; so would gown and glove packs.

2) Apart from the above, sufficient supplies would be collected to cater for the first two operations on each Theatre list. This would include the specialised packs prepared by TSSU.
Within the 'clean' zone of the Department, trolleys used for moving supplies and for collecting items for disposal or reprocessing would be kept separate.

8.1 Supplies: Frimley Park Hospital

A) Departmental supplies

1) Pass-through cupboards from the Hospital Street were retained in the final design of the Operating Department, although they were abandoned elsewhere after experience at Greenwich had shown that such cupboards were rarely used. They are not used here. Linen is not topped-up, it is simply returned, when washed, so it has proved easier to place the bags of Theatre Staff clothing and towels inside the door of the cloakroom than to lift the bags into the cupboards.

2) It is claimed that the policy to have all other supplies delivered at the TSSU delivery point has not proved workable. Apparently this is because some orders are placed by TSSU and some by the Operating Department, so the orders become confused if delivered together. Some goods, therefore, are delivered to the corridor adjacent to the 'bed

clean' area. But items for processing by the TSSU and commodities such as sterile fluids and medical gas cylinders enter the Department via the TSSU delivery corridor. Containers are washed, as appropriate, before storage. It is felt that the fact that this delivery corridor is also the disposal corridor for the Special Care Baby Unit is not ideal, since it is here that clean supplies of linen (other than clothing for the Changing rooms) for the Theatre are left. However, as linen is autoclaved along with other items forming the Theatre packs, this may be more a criticism in principle than a genuine problem in terms of control of infection.

Main storage facilities

Storage space is under tremendous pressure and it is no longer strictly as designated on the plans. The Pharmacy and Dressing Store has become a Store for TSSU items. Rather than having a central facility for pharmaceuticals, it has been decided that each Theatre should have a Pharmacy box in which pharmaceuticals can be ordered as necessary. The original policy came to grief because staff were forgetting to regularly re-stock the Theatres so that demands on the Pharmacy Store were erratic and it became difficult to judge the quantity and type of items which needed ordering.

The Pharmacy Store has provided the TSSU with some badly needed storage space. The TSSU has proved very cramped in every way. Here, some 'clean' stocks have to be stored in the area where disposal trolleys are received from the Theatres. This is not ideal. Many items, too, have to be placed on the floor since shelving facilities are inadequate.

It has also been necessary to 'borrow' a Store room in the Supply Centre for items used in TSSU as no back-up facility was provided for this area in the original design.

A bench for the Equipment Technician was provided in the Equipment room. Here, he vies for space not only with items of equipment but with sterile fluids, medical gas cylinders, plaster and a further overflow of items from the TSSU. The space is very crowded but, ironically, even under this pressure, it serves as a teaching area for the Operating Department Assistants (ODAs).

In the Equipment room, metal shelving was added after the hospital was opened. This has been supplemented by other storage units brought from the old hospital.

The storage of intravenous fluids in the Equipment Room has made it necessary to turn off heating in this area.

Just as items have spread from one Store room to another, so too have some overflowed from the Store rooms into the corridor, e.g. a cupboard has been located opposite the Pharmacy Store to accommodate epidural sets.

Undoubtedly the Operating Department holds more stock than the Best Buy planners intended. In part, this is inevitable since stores are received weekly or fortnightly rather than daily, although the requisitioning period does not, anyway, reflect the amount that is held. Indeed it is claimed that, of the items stocked in the Main Store in the Supply Centre, the department holds adequate stock for approximately one month's work. Some might argue that this is overstocking but, in the Operating Department, of all places, staff cannot risk running low and problems of supply from manufacturers make it desirable to hold sufficient on the department and in the Supply Centre to cover a reasonable period of time. It is thus unfortunate that, in an area where stores must be easily located, the planning principle of economy,

admirable though it is, has led to such tight provisioning of facilities.

B) Individual Theatre supplies

1 & 2 In general, the individual Theatre supplies are stocked up rather less frequently than suggested since the Supply rooms can accommodate sufficient to relieve the staff from constantly making journeys back and forth for every item used.

Of the trays prepared in TSSU, sufficient are collected for the operations on each sessional list (i.e. for a morning or afternoon). It would be preferred if they could be collected on a daily basis but there is an insufficient stock of instruments to make this feasible.*

The individual Theatre supply rooms themselves, therefore, have adapted to a changed policy for re-stocking despite the fact that the change creates a heavier demand on space. Here, too, is an area where pass-through cupboards - in this case from the Operating Department corridor to the Theatre Supply Room - are used. This is not surprising, for here the advantages of using them are so much more obvious than are the advantages of using a cupboard from Hospital Street to department. The pass-through cupboard is intended as a device for reducing double-handling of goods as well as a means of reducing traffic entering a department, but in the case of the Theatres not only does the pass-through cupboard reduce double-handling and alleviate the necessity to trail items through a 'clean' area, it also means that supplies can be passed through when

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* When the hospital opened, the stock of items to be re-cycled by TSSU was calculated on the basis of maximum Theatre usage per day plus 12% emergency work x 3 to allow for a 48 hour recycling period. But extra stock has had to be ordered as necessary because losses have occurred while the real workload of the Theatres has increased.

an operation is in progress and there is no requirement for the person delivering the supplies to 'gown-up'.

Within the 'clean' zone of the department, trolleys for supply and disposal are kept separate.

Planning policy: Disposal

Towards the end of each operation, the disposal trolley would be called up to the appropriate exit disposal bay. Within the Theatre all items for disposal would be coded and sealed, as appropriate, and instruments would be placed in their trays under covers. All items would then be placed in the disposal trolley to be taken by a porter to the central disposal area where TSSU staff unload it, retaining or discarding items as appropriate. The disposal collection trolley would then be disinfected.

8.2 Disposal: Frimley Park Hospital

The procedures for disposal from Operating Theatres are much the same as planned. However, the Operating Department had been provided with a trolley, designed for the collection of trays and refuse from four Theatres, which was too large to pass through the TSSU door! This has now been adapted for other purposes and smaller trolleys are used for the collection of items from individual Theatres.

Trolleys are cleaned in the space provided and refuse is left at the collection point adjacent to this area. There is some dissatisfaction about the amount of space allocated for disposal and, it is claimed, some of the items for return - e.g. laundry bags and crates - have to be left on the Hospital Street.

On this department, too, there is some dissatisfaction with the bags provided for refuse disposal. The amount of 'wet' refuse to be

discarded is quite considerable but the orange bags are on the small side and are inclined to split under the efforts of the staff to fill them to capacity. Here, therefore, wet refuse is placed in a black polythene bag before it goes into the orange bag.

Summary

Frimley Park Hospital Operating Department
Movement and storage of supplies

Reception and movement of supplies within the Operating Department has changed from that originally planned.

Stock holding must inevitably be greater than that planned as a result of the chosen system of supply. The major reason for greater stock-holding, however, may be because staff prefer to maintain a particular level of stock. This could be the result of external factors of supply.

Storage space is under considerable pressure; pressure on space in the TSSU being perhaps most severe.

Individual Theatre Supply rooms carry more stock than originally planned. It seems apparent that they are adequate to cope with this excess: it is the supply of commodities for sterile packs that is limiting.

Disposal system

Disposal procedures are much as planned.

There is some dissatisfaction with the bags used for disposal.

Space for the holding of waste is found to be inadequate.

3.3 Supplies: The West Suffolk Hospital

A) Departmental supplies

1) The pass-through cupboards for gowns etc. are not used. Each evening, laundry bags arrive in the area of the 'Recovery' exit lobby. Night staff take the bags to the Nurses' Rest Room where they sort out the stocks. The appropriate articles of clothing are taken to the Theatre Staff Changing rooms; other items are put on a trolley to be wheeled through the main department to the TSSU.

2) The majority of the supplies enter the Operating Department at the TSSU delivery point as planned. However, one or two commodities are delivered to the same point as the linen; some of the cleaning materials used on the department, for example. It remains policy to clean containers brought into the department for storage, although with boxes, it is, of course, only a matter of dusting.

Main storage facilities

At the West Suffolk, the main storage areas surrounding the TSSU are used as designated. One room labelled 'store' is used for the storage of commercially packed sterile disposables.

Without some rigorous quantification of stocks held it would be meaningless to compare the experience of the West Suffolk and of Frimley in relation to the adequacy of storage space in the Operating Departments. There are several variables which will affect the level of stocks that departmental staff order: the period between requisitions is one - in the case of medical and surgical sundries this is the same at both hospitals: the scale of workload is another - studies carried out at MARU indicate that the Operating Department at Frimley has a higher average workload than that at the West Suffolk;[1] but more subjective factors are also involved

in the assessment of adequate stocks levels. Hence comparisons are difficult to make.

What was apparent from discussions with staff in the Bury St Edmunds Health District was that at the West Suffolk, just as at Frimley, the TSSU is considered to provide a rather cramped and unsatisfactory working environment.

B) Individual Theatre supplies

1) The frequency with which individual Theatre stocks are topped-up varies according to the commodity. Operating Department assistants stock the anaesthetic cupboards daily. Gloves, however, are topped-up only once a week.

2) The stocking of Theatre packs follows that suggested in the planning policies. The TSSU supplies packs for the first two operations on a list. Trays for subsequent operations are supplied as they become ready. These are passed into the hatches of the Theatre Supply rooms. If necessary, TSSU can be contacted by intercom, but on the whole, nurses go and collect any additional supplies that are needed.

8.4 Disposal: The West Suffolk Hospital

The procedures for disposal from the Operating Theatres are, just as at Frimley, much as planned.

Waste and returns are packaged and placed on a trolley which is taken from the Exit Disposal Bays to the Trolley Clean Area. Rubbish and returns are left for collection in the disposal corridor, while the trolley is cleaned and returned to the main department.

Summary

The West Suffolk Hospital Operating Department
Movement and storage of supplies

The reception and movement of supplies within the Operating Department is similar to that planned, although the pass-through cupboards are not used.

Space in the TSSU is found to be under pressure.

Stock-holding in the individual Theatre Supply Rooms varies a little from that planned, according to the commodity.

Disposal system

Disposal procedures operate as planned.

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1 Space utilisation in hospitals. Comparative analysis of three case study hospitals. C Rawlinson, J Kelly, Draft MARU report, MARU 5/78

SECTION 9 : STAFF OPINIONS OF THE SYSTEMS OF SUPPLY AND DISPOSAL OPERATING IN THE TWO HOSPITALS

In broad terms it must be concluded that the system of supply at both the hospitals differs from that planned. Differences occur in the level of stock-holding and, to a large extent, in the method with which stocks are replenished at ward and department level. There is therefore little sense in which the planned system can be evaluated except in terms of the reasons for its rejection, some of which have already been cited. Discussion in this section is thus mainly confined to staff opinion of the systems currently in operation. The principles of the disposal systems, on the other hand, remain very close to those detailed in the planning policies, so that discussion of this subject may be seen as one both of planned and current systems.

Respondents were asked a series of questions with the aim of discovering whether they considered that current systems of supply and disposal, though they might differ from those planned, are nevertheless consistent with the Best Buy aims that they should be simple, reliable, flexible, economic, secure and effective in maintaining control of infection. The questions were phrased in very general terms open to a variety of interpretations. Responses represent a collection of subjective impressions and discussion here is, therefore, of an anecdotal nature.

A more rigorous evaluation has not been possible within the time-scale of this project. However, despite their limitations, the questions asked have provided the respondents with an opportunity to raise points which to them represent particular advantages or disadvantages of the systems of supply and disposal in their hospitals. This cannot be discounted as a valuable element in establishing a picture of user satisfaction.

In addition to questions relating to Best Buy principles, ward and

department staff were asked about the adequacy of storage space on their wards and departments.

9.1 Frimley Park Hospital

Staff opinion as to the simplicity of their system of supply and disposal

From the point of view of the Best Buy planners the supply and disposal system should be simple - 'for ease of understanding and execution by the staff at either end of the line, without constant supervision' (Planning Policy IID, p. 2). In the context of the traditional system of requisitioning for the majority of supplies, the concept of simplicity may be irrelevant. Requisitioning is a tried and tested system and it is therefore not surprising that staff encounter few procedural difficulties, except sometimes as a result of administrative procedures in the wider Supplies organisation.

Problems encountered by Stores staff as a result of nurses employing jargon on their requisition forms have become less as Stores staff gain experience and as the number of pre-printed requisition forms increases.

Few ward and department respondents complained of the length of time it takes to complete requisitions but this may be because it is something to which they have become accustomed.

Most respondents were satisfied that they could get the items they needed through the Supplies organisation although one or two respondents, responsible for ordering special items felt they would prefer to deal directly with the commercial supplier rather than through Supplies; this is because of the difficulty they encounter in 'chasing up' an order when they have no first-hand knowledge of its passage to the commercial supplier or, indeed, of the order number allocated by Supplies. What this means in practice is that checking on an order is

not a matter of a single telephone call; it involves following the order through the various stages of its placement. Surprisingly, only one respondent mentioned the attempts within the Supplies organisation to standardise Stores items - this being one of the results of central organisation of contracts. However, it may be that hospital staff at Frimley are still given the choice they require if finances permit. Certainly, in areas such as the Operating Department, it is the staff of the department who advise Supplies of their requirements.

Again the point was raised that the main hospital storage space was sometimes inadequate - notably with respect to provisions - to make the matter of supply simple.

From the point of view of ward staff there seems to be no problem with the system of linen supply unless their quota runs short, but this is a very real problem.

It has already been mentioned (p.111) that the one drawback to the supply of sterile packs is the occasional loss of tickets.

Respondents made no specific comments relating to whether the disposal system was simple to operate. However, responses to earlier questions on disposal would indicate that procedures are simple enough, providing that coding remains constant. The problems of mis-sorting have already been mentioned.

The reliability of the system of supply and disposal

Discussion of the distribution of specific commodities has already raised a number of points relating to this question of reliability. These can be summarised as follows,

Linen - problems arise as a result of the inability to meet daily demands with a single delivery.

Nurses cannot be sure of the time that the trolley leaves the ward and this sometimes creates problems if linen has not been transferred. It is not necessarily a problem of unreliable timing, however.

Sterile supplies - Sometimes stocks run down. This might be attributable to loss of tickets on the ward as much as to mistakes made at CSSD.

Stores - Sometimes requisitioned commodities cannot be supplied immediately as a result of unexpected demand, non-availability of goods or inability of the firm to deliver.

Not all items are held in stock and there are some delays in ordering since the orders must go via the hospital Store to District Supplies before they are placed with the firm (depending on the commodity).

Pharmaceuticals - The service is received very favourably: only one respondent commented on the variable times that the drug box might arrive.

Meals - Timing seems to be reliable.

Responses to the specific question about reliability revealed a majority of favourable opinions with respect to the delivery of stores at Frimley. A few ward respondents commented that, because there is no time to check the stores when they arrive, the discovery later that the order is incomplete may cause some difficulties. But it should not be forgotten that the inability of the Stores to meet an order immediately is not always within their control.

One respondent commented that if Stores could not meet an order they may offer an alternative.

Staff ordering special items seem generally aware of the amount of delay that might be involved and therefore order accordingly.

Supplies of linen and sterile packs are considered generally to be reliable within the limitations of stocks in the system.

The problem with the disposal system seemed to be the occasional build-up

of waste in disposal rooms; but it is a problem quickly dealt with by portering staff.

The flexibility of the system

A system of requisitioning is perhaps not as inflexibile as a system of topping-up or of standard issue, because staff are ordering what they want as it is required.

There are moves towards standardisation of consumables, but if senior staff consider that a new item is desirable, and if there are no financial arguments against its introduction, then there seem to be few problems to meeting the demand. The buying of expensive items of equipment, of course, is reviewed by committee.

The major complaint of ward and department staff is not that Supplies is inflexible in meeting their demands but that Stores are reluctant to relieve them of a commodity that they have ceased to use (see p. 115).

CSSD, according to one respondent, is prepared to accommodate new demands, at least for packs that are part of the standard range.

It is known that both the quotas of sterile supplies and of linen have changed over the years, so that both are flexible in that respect.

Earlier discussion of main storage space would indicate that the allowance has not proved flexible enough to accommodate bulk purchasing policies.

Respondents made no comment about the flexibility of the disposal system but since porters are willing to respond to telephone calls to collect refuse and returns from the wards and departments it seems fairly clear that they do provide a flexible service.

Economy of the system

From the point of view of the whole hospital, the economic problems of buying in small quantities and of off-siting major support services have already been discussed.

The question put to ward and department staff was whether they considered that the system was at all wasteful in terms of staffing, technology or the quantity or type of goods supplied. All were non-committal about staffing and technology though ten made some comment about the goods consumed. Four thought that consumption was not at all extravagant, the remaining six felt that it was. Basically, it is disposables that are seen as extravagant, but a few respondents mentioned wastage of food, which they attributed to the plated meal system (presumably because this system makes food wastage visible on the ward, whereas the wastage of a bulk service is more evident to those in the kitchen). One respondent, however, felt that one must see this type of wastage in terms of easing the workload on ward and department staff. It is a valid point and certainly one of the reasons for the introduction of services such as the plated meal service. Furthermore, of course, saving of staff time and reductions in processing equipment also have economic implications: there are many factors to weigh against each other in the determination of economy.

Amongst those who organise the system of supply and disposal any wastage is seen in terms of time spent making unscheduled deliveries - whether as a result of ward mismanagement or external factors - and again in the extravagance of consumption. Particularly distressing to Stores management is the wastage caused by holding a stock of items which suddenly goes out of use, sometimes because the stock was being held to cater for the preferences of only one person. In this context, one can

understand the desire to introduce a degree of standardisation.

The security of the system

Losses of linen and sterile supplies have already been mentioned. Some losses may be genuine, others are undoubtedly theft. In their position in the Link corridors, of course, linen trolleys are not overlooked. However, it is not certain whether linen is lost directly from there or at some other stage.

Four department respondents mentioned that locks had had to be fitted to Stores on their departments since the hospital opened. On the Physical Medicine Department it was mentioned that main department doors could not be locked at night in case of fire. Here, equipment has to be put away at night and brought out in the morning; this is very time-consuming and not altogether easy from the point of view of storage.

Ward respondents varied between thinking that security on their own wards was reasonable and feeling that there was a need for more lockable facilities. One respondent from the first floor mentioned that theft of personal belongings had been a problem.

Amongst staff who organise the supply and disposal system perhaps the major criticism concerned ease of access to the hospital as a whole. There are several entrances around the perimeter of the building which cannot be monitored.

Generally, there does seem to be some concensus that security could be improved. However, without making some comparative studies of losses, it cannot be clear whether security at Frimley is any worse than in hospitals of different design.

Control of infection

At a time when the use of sterile supplies and disposables has become well-established, the importance of control of infection is more relevant to matters of waste disposal than to matters of supply. It has already been mentioned that disposal procedures are felt to be adequate providing they are followed. This view was also held on wards and departments, although there was some concern that staff charged with disposing of items were not always sufficiently interested in the problem to concern themselves with procedure.

Adequacy of storage space

Main storage space in the hospital has already been discussed, although little has been said about its location. It is worthwhile recording here that those responsible for organising supply and disposal in the hospital feel that the location is good from the point of view of the relationship with most wards and departments, although the relation individually of the Provision Store to the Kitchen and of the Pharmacy Store to the Dispensary is criticised. It is the constant need to bring supplies up the ramp that constitutes a problem for the kitchen, while the problem for the Dispensary is distance around the Hospital Street. This latter problem has been solved by using a pathway across one of the courtyards (only accessible to the Dispensary).

On the wards and departments, the question 'Is storage space adequate?' met with predictable results, although, on the Pathology Department, reorganisation of space enabled the respondent to claim that storage is now adequate, although bench-space for apparatus is restricted.

Of respondents from several other areas of the hospital, a few mentioned problems of equipment storage quite apart from problems of

supplies storage. Combining responses with visual evidence, several wards and departments come off worse than others in respect to storage: examples are Central Treatment Suite, Theatres, Intensive Therapy Unit and the Orthopaedic ward (the Kitchen and Pharmacy were mentioned earlier in the report). However, departments such as the Physical Medicine Department also have considerable problems in relation to the storage of equipment.

Supplies storage in the Central Treatment Suite is very confined when one considers that this Suite is providing a 'whole hospital' service. Of course, it is true that not all supplies are replenished daily, but sterile packs are and these constitute a good proportion of the stock held. The problem is not so much that supplies overspill the room but that, within a confined space, it is difficult to impose a form of classification which makes individual commodities easy to locate.

Theatre storage is dealt with on p.206. On the Intensive Therapy Unit the problem is one of inadequate or inappropriate provision of storage units. Staff have augmented what exists with a variety of cupboards and cabinets. Behind the nurses' station a drawer unit has proved an inappropriate form of storage for the dressings, catheters, etc. it contains, for, when full with these items, the drawers are constantly jamming.

9.2 The West Suffolk Hospital

Staff opinion as to the simplicity of their system of supply and disposal

In principle, the requisitioning of supplies is felt to be a simple system; in practice it has its problems. Basically, difficulties occur because, within the Area Stores, only stocks of regularly used items are held. The economic arguments for this are strong but, in an individual

hospital, some regularly used items fall outside the general category because their use within the Area is small. For these items, as well as for specialised items, therefore, the hospital must place special orders. For a user who knows that an item is not held in stock this is not a great problem for he is aware of the delays inherent in the ordering system; for the user expecting immediate supply, because he is not aware that the item is not stocked, the delay in response can pose very real problems. Discussion has already been made of this point and of the proposals of the Working Party on supplies to remedy the situation.

Within the hospital, one or two senior staff members raise orders directly with the Area Supplies for specialist items. This in itself is not something that one would criticise for these staff members are the ones with the specialist knowledge, but it has had its problems for the Storekeeper who, should a query arise, has to chase up a copy of the order for the purpose of checking. Again it is hoped that this problem can be solved by retaining copies of all orders in Administration.

The other criticism is the time it takes for the order finally to be placed and the difficulty of following up an order about which there is some query. The proposed provision of Area Ordering pads to heads of departments will come some way to solving the problem of follow-up, for these personnel will then be in possession of the necessary details about the number of the order they have placed - currently this information has to be sought in Administration before the order can be followed-up. The problem of delays in the time it takes to place an order is unlikely to be resolved under the present system. However, it is outside the scope of this project to make a study of the advantages or disadvantages of the current system of Area supply.

Few respondents made comments as to the simplicity of the mode of supply of commodities other than stores. We know, however, that problems of linen loss have turned a potentially simple daily delivery into a more fragmented service and that the practice of taking linen trolleys off-site sometimes renders the physical distribution of these trolleys difficult as a result of damage to tow-bars.

General discussion with hospital staff about the system of disposal revealed that it was simple enough from the point of view of operation.

The reliability of the system

To summarise points concerning reliability that were made in discussion of the distribution of specific commodities.

Linen	- Reliability is impaired solely as a result of the inadequacy of supply which is largely due to losses. This does, as the planners anticipated, lead to hoarding.
Sterile supplies	- Reliability depends on the consistency of staffing the delivery system. There is some complaint that necessary packs are not always received.
Stores	- Requisitions are not always immediately met; the reasons for this are evident in the light of previous discussion. Some staff feel it would be helpful if Stores could offer an alternative. Problems encountered with ordering lead to a certain amount of over-ordering taking place. At the Stores end, frequent visits by ward staff may result from inefficiency in requisitioning although undoubtedly they also result from the problems concerning knowledge of stock and of special orders that have already been cited.
Pharmaceuticals	- There seem to be no complaints about the reliability of this service.
Meals	- Timing seems to be reliable.

Asked specifically about reliability, staff made few points that would add to the summary above, although it must be said that the general opinion of the staff concerning the system operated by the Stores staff is that it is reliable within the limitations imposed as a result of problems of stock.

Disposal - if the collection of waste on a department does not prove adequate the problem can be easily solved.

The flexibility of the system

The main hospital storage spaces would not adapt to increased bulk purchasing but this may not be as pressing a problem as it is at Frimley because a back-up Store does exist. It is felt that storage space will not prove flexible enough to cope with extensions to the hospital although, between the Hospital and the Sub Area Stores, provision for the new Geriatric extension has already been absorbed. Of course, it must be remembered that Best Buy was not designed for extensive expansion.

Unfortunately the tugs and trailers cannot gain access throughout the new Geriatric extension and goods-handling in this area is a problem.

On the whole, ward and department staff felt that the supply system was flexible, although there were some complaints that Stores would not take back commodities which were no longer in use.

Economy of the system

At management level it is considered that there is a great deal of waste in relation to the quantity and type of goods used. It is hoped that the introduction of some standard issues will enable the hospital to monitor consumption.

On some wards nurses feel that there is over-provision in the content of sterile packs e.g. far more gauze than is needed: once the pack is opened, of course, any excess must be wasted or at least not used for sterile procedures. However, the level of content of packs, one assumes, arises because of the need to standardise: from the point of view of carrying out a sterile procedure over-provision seems preferable to under-provision.

Another major problem for staff is the degree of time-wasting inherent

in the requisitioning procedure.

Security

Losses of linen and sterile supplies have already been mentioned. Apparently the loss of cleaning materials is also severe. The problem is felt to be that the Housekeepers' cupboards on the wards are not locked day or night. But this has come about because the valves for medical gases are located there. Currently there are moves to place a key behind glass, as for a fire door, in order that the rooms could be locked but the valves accessed in an emergency.

One respondent felt that the Supply areas on the wards are far too open.

On one ground floor department a Sister who had recently taken up her post commented that she had not believed in locking up supplies until she came to the West Suffolk. She attributed losses to the open layout. In principle, the same comment was made by a respondent on the first floor.

One respondent considered that the loss of personal belongings was more acute - and certainly more acutely felt - than the loss of supplies.

There were a few respondents on wards and departments who felt that security was not bad in their areas, but they were in the minority.

It is known that the drugs cupboard in the Physical Medicine Department is vulnerable as a result of the ease of access to the department outside normal working hours.

The opinion is held here, as at Frimley, that there are too many access points to the building and that it is too easy for intruders to walk round without being accosted.

Control of infection

Comments about control of infection related here, as at Frimley to the

disposal system rather than to supply.

It will be recalled that disposal procedures are felt to be adequate if they are followed. However, there is some concern about the bed-pan disposal units on wards.

Ward respondents were, on the whole, satisfied that disposal procedures were adequate, although one felt that the heavy-handling of refuse bags was a potential problem. One respondent considered that control of infection at the West Suffolk is 'second-to-none'.

The adequacy of storage space

Discussion has already been made of the capacity of the main hospital storage space. Here, as at Frimley, the location of the Supply Centre is felt to be very good from the point of view of access to wards and departments, but again, the specific siting of the Provisions Store is a problem. Furthermore, from a management point of view, the distance between Administration and the Supply Centre is inconvenient.

A question put to the ward and department staff about adequacy of storage space again elicited the majority response that it is inadequate.

In the Occupational Therapy Department storage facilities have proved inappropriate rather than inadequate. A wall unit of cupboards will not take the range of materials and completed articles of craft work that need to be stored; a walk-in storage cupboard had not been racked out by the time the hospital opened - although it must be stressed that this was not, anyway, the responsibility of the Best Buy planners; no provision was made for clerical storage.

The Accident and Emergency Department has found its own solution

to the problems of storing awkward-shaped items, such as splints, but a respondent here commented that she would have opted for less cupboards and more shelving in the clinical rooms although the storage cupboards themselves are reasonable.

On the wards, storage for housekeeping supplies and for disposable bed-pans is felt to be inadequate.

On the Orthopaedic ward a WC has been made into a store room for equipment. The Intensive Therapy Unit has a similar problem of equipment storage.

Storage space for X-ray materials on the X-ray department is extremely limited and, indeed, X-ray films are stored in the Main Store where temperature conditions are preferable.

Here, as at Frimley, the Store in the Central Treatment Suite is under pressure.

These are some examples of areas of the hospital where storage problems are encountered. It could be argued that, in the context of the present

Storage in the Central
Treatment Suite

supplies system, storage space throughout the hospital carries a larger stock-holding than anticipated, yet this may not be true across the whole range of commodities: sterile packs and disposable bed-pans are supplied daily, for example. Furthermore it is equipment as well as supplies over which difficulties of storage space present themselves. However, as one member of staff commented, provision of storage space is never adequate, but it rarely proves to be an insurmountable problem.

SECTION 10 : SUMMARY OF MAIN POINTS

A Comparison of current operations of supply and disposal at the Best Buy hospitals with those proposed by the Project Team during the design and planning stages.

1 Use of tugs and trailers

The plan to centrally co-ordinate tug rounds has not been instigated. Efficiency of use and the need to keep traffic on the Hospital Street to a minimum have been of secondary importance to meeting the needs of the hospital users.

Current practices of supply at both hospitals generate a certain amount of hand-pushed trolley traffic on the ramp. Representatives of those responsible for the planning of Best Buy express some concern about this from the point of view of safety. The fact that the practice occurs therefore raises several questions; if the hand-pushed trolleys are used because tugs are not available, has the situation arisen as a result of the way in which tugs are deployed or is there a case for increasing the number of tugs? Alternatively, if the ad hoc nature of small deliveries makes it impractical to programme them into tugs rounds, is there a case for locating sub-stores - for certain commodities - in the main building, to which major deliveries could be made by tug from the Supply Centre?

2 Supply

The methods of delivering supplies to hospital users are varied (see summaries on p. 126 and p. 150) but, in the main, diverge from those planned.

The extensive use of topping-up seems to have been rejected because of the problems of determining 'topping-up levels' and the implications

it would have for Supply (Stores) staff time. It might be worthwhile to investigate experience in other hospitals, in order to discover whether 'topping-up' can be successfully achieved, for ~~their~~ is no doubt that the principle is a valuable one i.e. that the burden of requisitioning should be removed from ward staff.

The planned policy to keep catering provision at a few selected points is gradually becoming eroded, because of the difficulty of leaving departments encountered by some staff and, indeed, some patients, in out-patient areas.

3 Disposal

The disposal system seems to be effective, as planned, except sometimes as a result of human fallibility. There is a need for staff to be constantly reminded of the reasons for procedures as well as of the procedures themselves, in order to avoid the incidents of injury to porters collecting waste or of unsuitable articles being burned in the incinerator.

Occasional problems have resulted from changes in the coding of receptacles or from duplication of colour codes for different items.

B The accommodation of current practices of supply

1 Where it was planned that supplies should be received ready for 'direct-to-user' issue, divergence from the planned policy, in practice, has had major implications with regard to space in the Supply Centre: the functions of bulk-breakdown and interim storage are both demanding in terms of space.

2 In terms of delivery from Supply Centre to hospital user, no aspect of the building itself has limited divergence from the planning policies.

In this respect, therefore, Best Buy has proved flexible. What does have an effect in physical terms is the period between supply to local delivery points. It has not been possible to explore the details of this effect but it is likely that local stock-holding, in both hospitals, is rather greater than planned.

3 Storage space is often under pressure. However, the problem of storage is not always one of ground space. Storage units are sometimes found to be inappropriate to accommodate an entire range of stock.

C <u>Is the current system of supply simple to operate, reliable and economical in terms of capital and running costs?</u>

1 The simplicity and reliability - and, to some extent, the economy - of current supply systems seems to depend on external factors such as the wider organisation of NHS supplies and commercial suppliers.

2 The low stock-holding determined for main storage areas may well have proved uneconomic, since - in the context of current purchasing systems - it has imposed limitations on bulk-buying. In this respect the Best Buy hospital may fall short of the aim that it should be economical in terms of running costs. However, this study is not able to anticipate the effect that future changes in the national supplies system (see p. 13) may have on stockholding in individual hospitals.

3 It is considered, by District staff, that the most efficient and economical use of District Support services is likely to be achieved when they are sited at the point of most use, i.e. the District General Hospital. At Best Buy, in order to make use of existing facilities, these services were off-sited.

D Flexibility

In terms of current purchasing procedures, storage space has not proved as flexible as the users would desire. It is considered, however, that the current systems of supply and disposal are flexible in terms of user requirements.

E Security

Problems of security at Best Buy may result from the open-ness of the layout, although this cannot be clear without making further study. Losses of items, such as linen and sterile supplies, are known to be national, rather than local, problems.

F Control of infection

In relation to the disposal system, measures for control of infection are felt to be adequate providing that procedures are followed.

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APPENDIX I : LIST OF RESPONDENTS
FRIMLEY PARK HOSPITAL

Based at hospital:

Sector Administrator

Supplies Assistant

Supplies HCO

Senior Nursing Officer

Control of Infection Officer

District Pharmaceutical Officer

Catering Manager

Housekeeping Manager

Portering Services Manager

Hospital Engineer

plus respondents from:

Outpatients Department

Accident and Emergency Department

Physical Medicine

X-ray

Pathology

Isolation Ward

Psychiatry

Geriatric Wards

Operating Department

Intensive Therapy (or Care) Unit

Central Delivery Suite

Special Care Baby Unit

Post-natal Ward

Central Treatment

Day and Emergency

Children's Ward

Orthopaedic Ward

Medical Ward

Surgical Ward

ENT and Eye Ward

Supporting services staff based at Farnham:

District Supplies Officer

Linen Services Manager

Manager of CSSD

Also Operational Services Manager at Farnborough

LIST OF RESPONDENTS
WEST SUFFOLK HOSPITAL

Based at hospital:

Unit Administrator plus Assistants

Storekeeper

Senior Nursing Officers

Nursing Officers

Control of Infection Officer

District Pharmaceutical Officer

Catering Manager

Housekeeping Manager

Portering Services Manager

Hospital Engineer

Works Storekeeper

plus respondents from:

Outpatients' Department

Accident and Emergency Department

Physical Medicine

Occupational Therapy

X-ray

Pathology

Isolation Ward

Psychiatry

Geriatric Ward

Geriatric Day Hospital

Operating Department

Intensive Therapy and Coronary Care Unit

Central Delivery Suite

Special Care Baby Unit

Ante and Post Natal Wards

Central Treatment

Day and Emergency

Children's Ward

Medical Ward

Supporting services staff based at St Mary's

Senior Supplies Manager

Linen Services Manager

Manager of CSSD

APPENDIX II : Examples of schedules used during the course of interviews.

Evaluation of the Supply and Disposal Systems at Best-Buy Hospitals

Interview Schedule GROUP/AREA SUPPLIES OFFICER

Section I: Off-site Supplies

1 Are the Laundry and CSSD still located at St. Mary's hospital? If not, would you describe the present situation?

2 What items does the CSSD supply?

3 Is there an Area Supplies Organisation based at Fulbourn? If not, would you describe the present situation?

4 Where does bulk storage and breakdown of bulk goods take place?

Section II: Transport and 'Whole Hospital' Supply

1 What type of transport and number of vehicles are used for distribution of supplies in the district?

2 Does the hospital have its own vehicle allocation? If so, how many and what type of vehicles?

2a) Is there adequate space for them on site?

3 What service is provided from the Hospital Supply Centre to other hospitals in the district?

4 How are deliveries to staff residences catered for?

5 Is the loading dock suitably designed for the type of vehicles being used in deliveries (including those coming from commercial organisations)?

6 What range of goods is received by the hospital for distribution via the supply service?

Check list: (N.B. not exhaustive)

Linen a) uniforms/protective clothing
b) bed linens, towels etc.
CSSD packs
Disposables a) large items e.g. bed-pans
b) small items e.g. syringes
Pharmaceuticals a) drugs
b) chemicals
c) sterile fluids
Medical Gas Cylinders
Cleaning materials a) brushes, mops etc.
b) detergents etc.
Domestic goods e.g. light bulbs etc.
Stationery
Provisions a) food
b) beverages
Crockery/hardware
Bulky equipment a) medical
b) furniture
c) maintenance
Toys/equipment for occupational therapy
Glassware
Instruments a) medical & surgical
b) scientific

7 At what times are deliveries to the hospital made from
a) Laundry?
b) CSSD?
c) Pharmacy?
d) Stores

(if this question has not already been answered by the Storekeeper)

8 Does the hospital keep records of both off-site and commercial deliveries? Would I be permitted to have copies of these covering an average period(of, say, a month)?
Otherwise, is it possible to state how frequently each category of goods is delivered to the hospital?

9 Is the delivery programme worked on a 5 day basis or are some deliveries made at weekends?

10 Who is responsible for ordering the various items of supply?

11 Who is responsible for ensuring that goods are received, checked and stored and that normal and emergency user requirements are satisfied?

12 Is there any one person who has overall responsibility for the material handling aspects of supply and disposal?
(i.e. who has a complete overview of the system)

13 How many days' supply of the various supplies is maintained in the hospital?

14 How is demand assessed and what methods are used for reviewing the levels of supplies?

14a) Is stock-taking carried out within the Supply Centre alone or throughout the hospital?

15 Does the amount of goods required to maintain stock levels vary considerably over a period of time?

16 Does the hospital have any system for monitoring the quality of goods received?

17 Is the principle of 'topping up' used for all normal supplies within the hospital?
If not, can you explain the system?

18 Does laundry and CSSD arrive in containers for immediate distribution?

19 Is linen designated for wards or departments?
If so, how are emergency supplies catered for?

20 How is used linen despatched from the hospital? Is it divided into categories?

21 Does any treatment of laundry and CSSD take place on the hospital premises?

22 Where are laundry and CSSD returns held?

23 How long is linen and CSSD held at the despatch point before it is sent to the laundry?

24 What services are provided by the Sewing room in the hospital?

25 Who has responsibility for issue, exchange and repair of uniforms?

26 What precautions are taken to ensure security throughout the various stages of the supply system?

27 Does the location of storage areas cause any problem of security or management?

28 Has the new long-stay Geriatric Unit created any new demands on the supply system?

Section III: Attitudes Towards the Supply and Disposal System

1 In your opinion, is the system of supply and disposal

a) simple to operate from the point of view of supplies staff, porters and users?
b) reliable

c) flexible enough to accommodate changes in need?

2 Do you think that the system is at all wasteful in terms of eg. staffing, technology or quantity or type of goods supplied?

3 Could the security aspects of the system be improved?

4 Is adequate attention paid to the control of infection?

Evaluation of the Supply and Disposal Systems at Best-Buy Hospitals

Interview Schedule HEAD PORTER

Section I:Outside Deliveries

1 Is the loading dock suitably designed for the type of vehicles being used in deliveries?

2 Does any breakdown of bulk deliveries have to take place in the General Stores Area?

3 Is the design of the goods handling area suitable for the types of deliveries received?

4 Which goods are distributed direct to user departments on unloading from delivery vehicles?

Section II: Distribution within the Hospital

1 How many delivery and collection rounds are there in a working day?

2 What are the times of these rounds?

3 With what items of supply and disposal is each of the rounds concerned?

4 Which items are carried by tug and trailer and which on trolleys?

5 Is there any problem in staffing the tugs for normal delivery rounds?

5a) Are porters not normally involved in driving the tugs ever called upon?

5b) Under what circumstances?

6 Do the delivery tugs have to avoid any areas of the hospital at particular times of the day?
Specify?

7 How long do tugs take to complete the supply and disposal rounds?

8 Does each round have a regular off-loading pattern or are there some departments which are visited less frequently than others?
Specify

9 In which order are the departments visited?

10 How does the delivery porter determine the amount of various stocks to leave at each user department?

11 If the porter has insufficient stock on the trailers does he make a return journey immediately?
If not, can you explain what does happen?
(Is this a frequent occurrence?)

12 Do the delivery porters encounter any problem of access to the wards and departments?

13 Does the delivery porter use pass-through cupboards where they are provided?

14 Are any goods distributed by the porters outside the normal delivery rounds?
Can you give examples (eg. do porters deliver baby feeds between the Central Milk Kitchen and Childrens' Ward)?
How frequent are such deliveries?

15 What arrangements are made to cover the emergency delivery of supplies at night, weekends or during Bank Holidays?

16 Do the porters run a messenger service (for items such as mail, records, X-rays & specimens) in addition to the supply service or can the two be combined?

Section III: Details concerning tugs; trailers and trolleys

1 Is the direction of circulation of the tugs within the hospital corridor always the same?

2 Are the same trailers used for both supply and disposal?

3 How many trailers are employed on each journey?

3a) How many trailers are there in all?

4 How many different trailer superstructures are in operation?
For what is each used?
How many are there of each?

5 How frequently are the tugs re-charged and for how long does this put them out of action?

6 Where does the maintenance of tugs and trailers take place?

7 Are the tugs generally satisfactory or do they breakdown frequently?

8 Do trailers and trolleys undergo some form of cleaning on a regular basis?
When and where?

9 Are any problems encountered in cleaning the trailers?

10 Is there any damage caused to walls as a result of using the floats?

10a) Are the tugs fitted with speed governors?

Section IV: Disposal of Waste

1 Is each category of disposable material carried separately by the tug and trailers?

2 Does the coding of waste work satisfactorily?

3 Are any precautions taken in disposing of
a) infected waste?

b) glass

c) hypodermic needles etc.

4 Does the central incinerator cope with all combustible waste or do any other provisions have to be made?

5 Is the crusher in use?
If so, for what categories of waste?

6 When does the Local Authority collect refuse?

7 Does the hospital sort waste materials into categories for collection by the Local Authority?

8 What provisions are made for disposal of rubbish from the residences?

Section V: Attitudes Towards the Supply and Disposal System

1 In your opinion, is the system of supply and disposal

a) simple to operate from the point of view of supplies staff, porters and users?
b) reliable?

c) flexible enough to accommodate changes in need?

2 Do you think that the system is at all wasteful in terms of eg. staffing, technology or quantity or type of goods supplied?

3 Could the security aspects of the system be improved?

4 Is adequate attention paid to the control of infection?

Evaluation of the Supply and Disposal Systems at Best-Buy Hospitals

Departmental Interview Schedules

Respondent: Date:

(put a tick in the box beside the appropriate department)

General Acute	☐	Operating Theatres	☐
Maternity	☐	Intensive Therapy Unit	☐
Special Baby Unit	☐	X-ray	☐
Childrens'	☐	Pathology	☐
Psychiatric	☐	Mortuary	☐
Geriatric	☐	Physical Medicine	☐
Infectious Diseases	☐	Outpatients' Department	☐
Central Treatment	☐	Accident and Emergency Department	☐

Section I: Reception and Handling of Supplies

1 What type of goods are stored in the Ward/Department?

Check list: (N.B. not exhaustive)

Linen a) uniforms/protective clothing
b) bed linen, towels etc.
CSSD packs
Dressings
Disposables a) large items e.g. bed-pans
b) small items e.g. syringes
Pharmaceuticals a) drugs
b) chemicals
c) sterile fluids
Medical Gas Cylinders
Cleaning materials a) brushes, mops etc.
b) detergents etc.
Stationery
Provisions a) food
b) beverages
Crockery
Bulky equipment a) medical
b) furniture
Toys/ equipment for occupational therapy
Glassware
Instruments

2 Where are the various stores located

Check list:
Supply rooms
Disposal rooms
Linen trolleys
Pass-through cupboards
Nurses' stations
Beverage Units
Milk kitchens
Changing rooms
Special store rooms and cupboards

3 How many days' supply is kept of those items which have a regular turnover?

4 Which items of supply are delivered
a) daily ?

b) weekly ?

c) less frequently ?
specify frequency

5a) At what times are deliveries made to the ward/department?

5b) Which items are received with each delivery?

6a) Which items are delivered by tug and trailer ?

6b) Which items are delivered on a trolley independent of the tug?

6c) Which items are delivered by hand?

7 At which point(s) in the ward/department are the various supplies received?

8a) If there are pass-through cupboards in the ward/department are they used by the porter delivering supplies?

8b) If so, for which types of supply?

9a) Of the goods received, are any supplied on a topping-up basis? Which?

9b) Are any supplied on an exchange-trolley basis?

and/or

9c) Are supplies requisitioned?

9d) If none of the above methods are used how is the Supplies Department informed of the ward/department's requirements?

9e) And how does the delivery porter determine the amount of stocks to leave?

10a) How does the ward/department assess the level of various stocks it will require?

10b) Are requirements reviewed from time to time?

10c) Does the ward/department run a stock check?

10d) How is the Supply Department informed of changes in the requirements?

11a) At what times do the ward/department staff unpack and distribute stores from the supply point(s)?

11b) Who are the members of staff involved?

11c) How are stocks conveyed to their point of use within the ward/department? (i.e. trolley, hamper etc.)

cont...

11 cont. (note to interviewer: pay particular attention to the number of linen trolleys and means of re-stocking)

12 Are any special procedures (eg. cleaning of containers) carried out before supplies are taken to a particular section of the ward or department?

13a) Who is responsible for requisitioning emergency stocks from
I) the Supply Department?
II) the Pharmacy?
III) the Path. Lab?

13b) How is this done?

13c) Are emergency requisitions for the CSSD and Laundry dealt with by the Supplies Department?

14a) Who is responsible for receiving and unloading drugs?

14b) What security precautions are taken to protect the stocks of drugs?

15a) If needed, what arrangements are made for receiving supplies of blood?

15b) Who delivers it?

15c) By what form of transport?

15d) Where is it sent from?

16 If there is any necessity for radioactive materials in the department what arrangements are made for their transportation?

(FOR WARDS ONLY)
17 How many beds are receiving gas from portable appliances at the moment?

17a) If several are receiving gas in this form, is this because the beds receiving piped gases are not suitably located or because there is anyway a large demand for gases?

17b) Are there any problems in storing gas cylinders?

18 Do sterile packs have a shelf life?

18a) If so, what measures are taken to ensure that older stock is used before newer?

18b) Who is responsible for seeing that this happens?

19 Do any special precautions have to be taken to protect some supplies from contamination?

20 Do any special precautions have to be taken to protect supplies from falling into the hands of unauthorised users?

(catering supplies)

21 Does the ward/department receive a meal trolley from the Central Kitchen?

21a) If yes, is this a plated meal service or a bulk food delivery?

21b) At what times are such trolleys received?

21c) At what times are the trolleys collected?

21d) Is crockery returned with the trolley or washed on the ward/department?

22 Is any food received from the Snack Bar?

22a) If so, how is it delivered?

22b) To which points of the ward/department is it distributed?

23 Are any snacks or beverages prepared on the ward/department itself?

23a) If so, where?

23b) Who prepares them?

23c) How are they distributed?

23d) To which points of the ward/department are they delivered?
(eg. patients' beds on the wards/ staff rest room in the operating dept.)

(QUESTION FOR WARDS ONLY)

24 Does your ward receive any deliveries from the Central Milk Kitchen?

24a) If so, what is delivered?

24b) How many deliveries are made?

24c) To which points of the ward are they delivered?

24d) Who is responsible for making the deliveries and how are the goods transported?

24e) How many days' supply of each item is held?

24f) Who is responsible for checking the stocks held on the ward?

(messenger service)

25 At what times is post delivered?

25a) Is this delivered independently of the supplies?

26 Are X-rays, reports etc. delivered at regular times or on an adhoc basis?

Section II: Movement of Items away from the Ward/Department and Disposal of Waste

1 If specimens are taken on the ward/department, are they sent straight to the Path Lab or are they collected at some point to be sent in a batch?

1a) Who is responsible for their delivery?

2 Does the ward/department use more than one room for purposes of disposal?

2a) Is the disposal room used for interim storage of all waste materials and used items?

3 Is waste material sorted into different categories?

3a) If so, what kind of containers are used for the different categories and how are they differentiated?

4 How is infected waste dealt with?

5 Are any precautions taken for disposing of syringes, hypodermic needles, razor blades, glass bottles, aerosols etc?

6 At what times are collections of waste made?

7 Are used items, such as linen, collected at the same time?

7a) If not, what are the times of collection of the various used items?

8 Does the porter collecting disposable material need to come right into the ward/department?

9 Are items of linen for return to CSSD kept separate from those which are for return to the laundry?

10 What arrangements are made for sorting out items of linen which need some repair?

11 Where do staff deposit dirty uniform?

11a) How is it identified for each individual?

12 Do any necessary repairs of furniture or equipment place on the ward/department or are these moved to the Maintenance Dept?

12a) If the latter, how and at what times are the items transported?

12b) Are beds taken away to be disinfected off the ward?

Section III: Attitudes towards the Supply and Disposal System?

1 Do the activities involved in the supply and disposal of goods cause any disturbance on the ward/department?

2 Is storage space on the ward/department adequate?

3 In your opinion, is the system of supply and disposal

a) simple to operate?

b) reliable?

c) flexible enough to accommodate changes in need?

4 Do you think the system is at all wasteful in terms of eg. staffing, technology or quantity or type of goods used?

5 Could the security aspects of the system be improved?

6 Is adequate attention paid to the control of infection?

MARU
1978

APPENDIX III: Examples of the variations in the types and quantities of sterile packs held on different wards and departments

26.5.76.

FRIMLEY PARK HOSPITAL

MALE WARD MEDICAL DEPT. F4 WARD

Code No. 16-21

NO.	ITEM		NO.	ITEM	
2	CHEST ASPIRATION	001	2	PAPER TOWELS	056
2	I.V. CUT DOWN	003	5	SURGIPADS 8" x 8"	058
4	LAVAGE	004	8	SURGIPADS 8" x 16"	059
6	MANOMETER SETS	005	1	MINOR SUTURE	067
4	MOUTH TOILET	006	1	UNDERWATER SEAL BOTTLE	070
1	NASAL PACK	007	4	MOUTH SPONGE	088
2	PARACENTESIS ABDOMINUS 16FG	008	1	TRACHEOTOMY PACK	012
8	PARALDEHYDE TRAYS	009			
12	MEDIUM DRESSING PACK	016			
6	5" ARTERY FORCEPS	018			
8	METAL DISSECTING FORCEPS	020			
2	SINUS FORCEPS	022			
4	GALLIPOTS 60ml	024			
3	REGAL SWABS 4" x 4"	027			
2	WOOL BALLS	028			
2	½" RIBBON GAUZE	029			
2	1" RIBBON GAUZE	030			
12	JUGS 2pt	033			
2	MAC PAPER 24" x 24"	034			
2	PROBES	035			
24	KIDNEY DISHES 10"	040		Copy sent to Ward :-	
2	SCALPEL HANDLES NO.3	043			
16	SCISSORS STITCH	045			
1	CUSCOES SPECULA SMALL	048			
1	CUSCOES SPECULA MEDIUM	049			
1	CUSCOES SPECULA LARGE	050			
4	SYRINGE BLADDER 50ml	055			

26.5.76

FRIMLEY PARK HOSPITAL

ORTHOPAEDIC F.6 WARD DEPT.29

Code No. 16-10

NO.	ITEM		NO.	ITEM	
1	CHEST ASPIRATION	001	2	PROBES	035
3	EYE TOILET	002	2	EYE PADS	038
1	I.V. CUT DOWN	003	40	KIDNEY DISHES	040
3	LAVAGE	004	2	SAFETY PINS	042
2	MANOMETER SETS	005	1	SCALPEL HANDLE NO.3	043
3	MOUTH TOILET	006	15	STITCH SCISSORS	045
1	PARALDEHYDE TRAY	009	3	CUSCOES SPECULA MEDIUM	049
2	VAGINAL DOUCHING	013	4	SPONGE HOLDING FORCEP 9½"	054
1	VAGINAL PACKING	014	2	SYRINGE BLADDER 50ml	055
4	SMALL DRESSINGS	015	9	PAPER TOWELS	056
8	MEDIUM DRESSINGS	016	7	SURGIPADS 8" x 8"	058
4	LARGE DRESSINGS	017	20	SURGIPADS 8" x 16"	059
4	ARTERY FORCEPS 5"	018	1	UNDERWATER SEAL BOTTLE	070
2	CLIP REMOVING FORCEPS	019	2	ASPIRATION PACK	073
16	METAL DISSECTING FORCEPS	020	2	COTTON BUDS	301
1	DISPOSABLE DISSECTING FORCEP	021	3	MOUTH SPONGE	088
4	SINUS FORCEPS	022	1	MINOR SUTURE PACK	067
2	EYE SCISSORS AND FORCEPS	023			
4	GALLIPOTS 60ml	024			
4	REGAL SWABS 4" x 4"	027			
2	WOOL BALLS	028			
2	RIBBON GAUZE ½"	029			
2	RIBBON GAUZE 1"	030		Copy sent to Ward :-	
2	RIBBON GAUZE 2"	031			
2	RIBBON GAUZE 3"	032			
16	JUGS 2pt	033			
2	MAC PADS 24 x 24	034			

FRIMLEY PARK HOSPITAL

ANTE-NATAL WARD DEPT. 25 Code No. 16-06

NO.	ITEM			
1	I.V. CUT DOWN	003		
20	LAVAGE SET	004		
1	GALLIPOTS 60ml	024		
1	REGAL SWAB	027		
1	WOOL BALLS	028		
30	JUGS 2pt	033		
10	KIDNEY DISHES 10"	040		
5	CUSCOES SPECULA MEDIUM	049		
6	SIMS SPECULA MEDIUM	052		
2	SPONGEHOLDING FORCEPS 9½"	054		
1	PAPER TOWELS	056		
1	DELIVERY PACK	102		
5	V.E. PACKS	109		
1	NAIL BRUSHES	110		
5	LINEN TOWELS	119		
				Copy sent to Ward :-

FRIMLEY PARK HOSPITAL

CENTRAL TREATMENT DEPT. 34 STOCK (Contd) Code No. 16-04

NO.	ITEM		NO.	ITEM	
30	LINEN TOWELS	119	25	MINOR OPERATION PACK	344
6	VULSELLUM FORCEP x 1 TOOTH	140	4	McDONALDS DISSECTOR	346
6	VULSELLUM ROTUNDA	147	5	B.P.C. WOOL BALLS	347
14	PERFRON DRESSING 20 x 20mm	202	3	HYDROCELE TROCAR 8	348
2	DRAINAGE TRACHEOTOMY DRESSINGS	203	3	HYDROCELE TROCAR 9	349
6	LITHOTOMY PACKS	206	3	HYDROCELE TROCAR 10	350
1	THEATRE SUCTION TUBING 9ft.	231	6	GILLIES FORCEP	351
5	PERFRON DRESSING 8 x 16	242	20	DERMATOLOGY SCOOPS 5"	352
10	COTTON BUDS	301	20	KIDNEY DISHES 12"	354
30	BOWLS 6"	302	3	MULTIPLE HYDROCELE SET	355
30	MOSQUITO FORCEPS	303	6	McINDOES SCISSORS C.O.F.	359
10	ALLIS TISSUE FORCEPS	309	2	PATERSONS BIOPSY FORCEPS	363
2	GILLIES SKIN HOOKS	314	10	STERNAL PUNCTURE NEEDLE	366
2	LACKS TONGUE DEPRESSOR SMALL	315	5	VOLKSMAN SPOON D/E A	367
2	LACKS TONGUE DEPRESSOR LARGE	316	5	VOLKSMAN SPOON D/E B	368
2	NASAL SPECULA SET 0-4	317	5	VOLKSMAN SPOON D/E C	369
12	ADULT SIGMOIDOSCOPES	318	[illegible]	RUBBER DRAINS CORRUGATED	373
6	ADOLESCENT SIGMOIDOSCOPES	319	10	MALLETS	380
6	PROCTOSCOPES	320	4	CURVED MOSQUITO FORCEPS	393
2	CLUTTONS SOUNDS	321	4	INSERTION OF COIL	394
2	HAEMORRHOID INJECTION	322	10	TOOTHED IRIS FORCEPS 4½"	395
12	BIOPSY FORCEPS YEOMANS	323	6	CATHETER INTRODUCER 2mm	396
10	EPILATION FORCEP	324	1	HEGGARS DILATOR	411
10	SILCOCKS NEEDLEHOLDER	327	2	PROGESTERONE IMPLANT SET	437
10	FIXATION FORCEP	329	1	ABRAMS BIOPSY PUNCH	
25	CIRCUMCISION TOWELS	339	2	COTTON GAUZE SWABS 4 x 4	
20	GALLIPOTS 3"	341			

FRIMLEY PARK HOSPITAL

CENTRAL TREATMENT. DEPT. 34 STOCK — Code No. 16-04

NO.	ITEM		NO.	ITEM	
6	CHEST ASPIRATION	001	10	PAPER MACS 24 x 24	034
2	EYE TOILET	002	20	PROBES 5"	035
6	MANOMETER SET	005	20	PROBES 6"	036
2	NASAL PACKING	007	20	PROBES 7"	037
6	PARACENTESIS ABDOMINUS	008	40	KIDNEY DISHES 10"	040
6	SOUTHEYS TUBES	010	10	SAFETY PINS	042
8	VAGINAL DOUCHING	013	30	SCALPEL HANDLE No. 3	043
5	VAGINAL PACKING	014	125	SCISSORS STITCH	045
2	DRESSING PACK SMALL	015	6	CUSCOES SPECULA SMALL	048
40	DRESSING PACK MEDIUM	016	6	CUSCOES SPECULA MEDIUM	049
25	DRESSING PACK LARGE	017	4	CUSCOES SPECULA LARGE	050
30	ARTERY FORCEP 5"	018	3	SIMS SPECULA SMALL	051
30	CLIP REMOVING FORCEP	019	3	SIMS SPECULA MEDIUM	052
20	DISSECTING FORCEPS 5"	020	3	SIMS SPECULA LARGE	053
2	DISPOSABLE FORCEPS	021	30	SPONGE HOLDING FORCEPS	054
50	SINUS FORCEPS	022	5	BLADDER SYRINGE 50ml	055
30	EYE SCISSORS & FORCEPS	023	10	PAPER TOWEL	056
10	GALLIPOTS 60ml	024	12	SURGIPADS 8 x 8	058
4	REGAL SWABS 2 x 2	025	[illegible]	SURGIPADS 8 x 16	059
17	REGAL SWABS 3 x 3	026	3	CATHETER INTRODUCER 2mm	071
25	REGAL SWABS 4 x 4	027	3	CATHETER INTRODUCER 3mm	072
15	WOOL BALLS	028	10	ASPIRATION PACKS	073
5	RIBBON GAUZE ½"	029	12	TOWEL CLIPS	077
5	RIBBON GAUZE 1"	030	10	GALLIPOTS 120ml	090
3	RIBBON GAUZE 2"	031	6	CHEATLE FORCEPS	098
3	RIBBON GAUZE 3"	032	10	NAIL BRUSHES	110
20	JUGS 2pt.	033	2	GAUZE ROLLS 9" x 6 yds.	117

APPENDIX IV

Examples of Pre-printed Requisition Forms

Frimley Park Hospital

STOCK REQUISITION/ISSUE NOTE

VOUCHER NO. 35301

REQUISITION
To be completed by Wards or Department

.....Hospital 19

.....Department

To be completed by Office

Month No.....

Store No. .....

DATE TYPE 6 — Source 9 Credits (-) only

Quantity Required	ITEM	Unit of Issue	Expenditure Code F	U	M	S	S/t	Job Code		ITEM CODE	UNITS ISSUED	dec
	Syringes Disposable 1ml	Box			33	23				39049		
	Syringes Disposable 2ml	Box			33	23				39050		
	Syringes Disposable 5ml	Box			33	23				39051		
	Syringes Disposable 10ml	Box			33	23				39052		
	Syringes Disposable 20ml	Box			33	23				39053		
	Syringes Disposable 50ml	Box			33	23				39054		
	Insulin Syringe 2ml	Box			33	23				39055		
	Insulin Syringe Comb. 1ml	Box			33	23				39056		
	Hyponeedle Disp. No. 1 1½" × 21g	Box			33	23				39060		
	Hyponeedle Disp. No. 12 1⅜" × 23g	Box			33	23				39065		
	Hyponeedle Disp. No. 17 ⅝" × 25g	Box			33	23				39070		
	Hyponeedle Disp. No. 20 ⅝" × 25g	Box			33	23				39071		
	Hyponeedle Disp. Serum II 2" × 19g	Box			33	23				39075		
	Hyponeedle Disp. Serum II ⅞" × 26g	Box			33	23				39076		
	Transfusion Sets Adult	Each			33	22				39080		
	Stitch Cutters	Box			33	39				39082		
	Gloves Surgeons Size 5½	Pair			33	39				40003		
	Gloves Surgeons Size 6	Pair			33	39				40003		
	Gloves Surgeons Size 6½	Pair			33	39				40003		
	Gloves Surgeons Size 7	Pair			33	39				40003		
	Gloves Surgeons Size 7½	Pair			33	39				40003		
	Gloves Surgeons Size 8	Pair			33	39				40003		
	Gloves Surgeons Size 8½	Pair			33	39				40003		
	Napkins Non Sterile	Pack	62		21	02	00			18148		
	Towel Dressing Paper 10" × 18"	Roll	62		67	20				69198		
	Towel Dressing Paper 20" × 18"	Roll	62		67	20				69199		
	Sheets Clinical Large 76" × 76"	Box	62		67	20				69200		
	Pads Incontinent 30" × 23"	Box	62		67	20				69309		
	Rolls Incontinent	Each	62		67	20				69310		

REQ'N BY..... ISSUED BY ....DATE.....

.....DATE.....

TOTAL REQ'D	COMMODITY	ISSUE UNIT	J/C	ITEM CODE	UNITS ISSUED	TOTAL REQ'D	COMMODITY	ISSUE UNIT	ITEM CODE
	COTTON WOOL						BANDAGES (continued)		
	Balls Pk of 250 Large	PK		32140			Systenet AS	EA	34060
	B.P.C. 500g Roll	EA		32141			Systenet AL	EA	34061
	B.P.C. 1oz Roll	EA		32142			Systenet BS	EA	34063
	Grey 500g Roll	EA		32143			Systenet BL	EA	34064
	Hosp. Quality 500g Roll	EA		32144			P.O.P. Gypsona 5cm	EA	34070
	Rolls Dental Pk of 500	PK		32145			P.O.P. Gypsona 7.5cm	EA	34071
							P.O.P. Gypsona 10cm	EA	34072
							P.O.P. Gypsona 15cm	EA	34073
	GAUZE						P.O.P. Gypsona 20cm	EA	34074
							Quinaband 7.5cm	EA	34080
	Calgitex	EA		33210			Stockingnette 15cm	EA	34082
	Cotton Tissue Gamgee 500g	RL		33211			Stockingnette 20cm	EA	34083
	Swabs Plain 12 ply 7.5 sq. cm.	PK		33215			Stockingnette 22.5cm	EA	34084
	Swabs Plain 12 ply 10 sq. cm.	PK		33216			Stockingnette 5cm	EA	34085
	Swabs Raytec Green 12 ply 10 sq.cm.	PK		33217			Stockingnette 7.5cm	EA	34086
	Swabs Softnet 12 ply 7.5 sq. cm.	PK		33218			Stockingnette 10cm	EA	34087
	Swabs Softnet 12 ply 10 sq. cm.	PK		33219			Suspensory Medium	EA	34088
							Suspensory Large	EA	34089
							Suspensory Extra Large	EA	34090
	BANDAGES						Suspensory Extra Extra Large	EA	34091
							'T' Perineal	EA	34095
	Blue Line 10cm	EA		34001			Triangular Short Life Pk of 25	PK	34099
	Compression 10cm	EA		34008			Tubinette 01	EA	34100
	Compression 15cm	EA		34009			Tubinette 12	EA	34101
	Calaband 7.5cm	EA		34010			Tubinette 34	EA	34102
	Collar 'N' Cuff	EA		34011			Tubinette 56	EA	34103
	Cotta-Cream 7.5cm	EA		34013			Tubinette 78	EA	34104
	Crepe Elvic 5cm	EA		34014			Tubigrib B G4	EA	34105
	Crepe Elvic 7.5cm	EA		34015			Tubigrib C G4RT	EA	34106
	Crepe Elvic 10cm	EA		34016			Tubigrib D G4X	EA	34107
	Crepe Elvic 15cm	EA		34017			Tubigrib F G5	EA	34108
	Dermette 10cm	EA		34021			Tubipads P4X	EA	34113
	Dermette 15cm	EA		34022			Tubipads P5	EA	34114
	Kling 5cm	EA		34040			Unaband 7.5cm	EA	34120
	Kling 7.5cm	EA		34041			Velband 5cm	EA	34125
	Kling 10cm	EA		34042			Velband 7.5cm	EA	34126
	Kling 15cm	EA		34043			Velband 10cm	EA	34127
	L. Reflex 7.5cm	EA		34050			Velband 15cm	EA	[illegible]
	Lifecare support med 31-35	EA		34052			W.O.W. 2.5cm	EA	34129
	Lifecare support large 36-40	EA		34053			W.O.W. 5cm	EA	34131
	Marybel Calico	EA		34055			W.O.W. 7.5cm	EA	34132
							Vinospacte P37 7.5cm	EA	34135
							Turaband	EA	34136
							Tubiped Secret	PK	34140

PATIENT REQ'D	COMMODITY	ISSUE UNIT	J/C	ITEM CODE	UNITS ISSUED	TOTAL REQ'D
	LINT					
	White 500g	RL		35225		
	PREPACKED UNITS					
	Jelonet Pk of 10 10sq. cm.	PK		36185		
	Melolline Pk of 100 5sq. cm.	PK		36186		
	Melolline Pk of 100 10sq. cm.	PK		36187		
	Non-Adhesive 9.5sq. cm.	PK		36191		
	Paranet 10 × 7cm	TN		36196		
	Paranet 10sq. cm.	TN		36197		
	Eye Pad Pk of 100 E.P.2	PK		36230		
	Eye Patch Occlusion Env. of 7	EN		36234		
	Eye Patch Opticlude 8.3 × 5.6cm.	PK		36235		
	Throat Pack 5.1sq. cm.	BX		36276		
	Adhesive Dressings & Plasters					
	Elastoplast 2.5cm	EA		37030		
	Elastoplast 5cm	EA		37031		
	Elastoplast 7.5cm	EA		37032		
	Elastoplast 10cm	EA		37033		
	Anchor Pk of 100 3 × 1.5in	PK		37150		
	Bandaid Patches 3.8sq. cm.	PK		37155		
	Bandaid various Assorted	PK		37156		
	Bandaid Spots 2.2cm Dia	PK		37157		
	Bandaid Strip 7.5 × 2.5cm	PK		37158		
	Bandaid Strip 5 × 11cm	PK		37159		
	Bandaid Strip 7.5 × 1.9cm	PK		37160		
	Dermicel 12.5 × 10cm	PK		37165		
	Dermicel 19 × 10cm	PK		37166		
	Dermicel 25 × 10cm	PK		37167		
	Ethistrip 351G ¼ × 3in	PK		37170		
	Ethistrip 360G ¼ × 3in	PK		37171		
	Ethistrip 3[illegible]G ¼ × 4in	PK		37172		
	Felt Z.O. Thin 1/16 × 36 × 18in	BX		37180		
	Felt Z.O. Med 3/16 × 36 × 18in	BX		37181		
	Felt Z.O. Thick 3/8 × 36 × 18in	BX		37182		
	Sterispon No. 1	EA		37200		
	Sterispon No. 2	EA		37201		
	Sterispon No. 5	EA		37202		
	Steristrip R1540 ¼ × 3in	PK		37203		
	Steristrip R1541 ¼ × 3in	PK		37204		
	Steristrip R1547 ½ × 4in	PK		37205		

COMMODITY	ISSUE UNIT	J/C	ITEM CODE
Adhesive Dressings & Plasters (cont)			
Strip (Elastoplast) 3.8cm	PK		37206
Strip (Elastoplast) 6.3cm	PK		37207
Durapore Tape 1.25cm	RL		37240
Durapore Tape 2.5cm	RL		37241
Durapore Tape 5cm	RL		37242
Micropore Tape 1.25cm	RL		37243
Micropore Tape 2.5cm	RL		37244
Hospital Tape 1.25cm	RL		37250
Hospital Tape 2.5cm	RL		37251
Hospital Tape 5cm	RL		37252
Sleek Tape 2.5cm	RL		37260
Sleek Tape 5cm	RL		37261
Sleek Tape 7.5cm	RL		37262
Transpore Tape 1.25cm	RL		37265
Transpore Tape 2.5cm	RL		37266
Transpore Tape 5cm	RL		37267
Steridrape 1050 18 × 36in	PK		37272
Steridrape 1040 14 × 24in	PK		37273
Steridrape Orthopaedic 48 × 50in	PK		37274
MATERNITY PADS			
Maternity C3	DZ		33031
Maternity Sterile C3	DZ		33032
MISCELLANEOUS			
Tubigrip Fingerstall 6.25cm	EA		33109
Tubigrip Fingerstall 7.5cm	EA		33110
Tubigrip Fingerstall 8.75cm	EA		[illegible]
Tubigrip Fingerstall 10cm	EA		33112
Gypsona P.O.P. Slab Disp. 15cm	EA		[illegible]
Gypsona P.O.P. Slab Disp. 20cm	EA		33177
Elastoplast Web 2.0 36 × 16in	BX		[illegible]
Compression Pad — Standard A	PK		[illegible]
Traction Kit Child	EA		[illegible]
Traction Kit Adult	EA		[illegible]
Traction Kit Non-Allergic Adult	EA		[illegible]
Wool Felt Med 3/16 × 36 × 18in	[illegible]		[illegible]
Sponge Rubber ¾ × 36 × 18in	PK		[illegible]
Sponge Rubber ½ × 36 × 18in	PK		[illegible]
Sponge Rubber NIAdin ¾ × 36 × 18in	PK		[illegible]

FILLED BY ..... ISSUED BY ..... DATE.....

[illegible] / CLEANING AND LAUNDERY
DISTRICT 3 [illegible]

Requisition & Issue Order

Voucher No. # 44601

Stock Requisition / Issue Note – Cleaning

F	U	M	S	S/T

HOSPITAL ..... MONTH No. .....

WARD/DEPT. ..... DATE .....

Total Req'd	Commodity	Issue Unit	J/C	Item Code	Units Issued	Total Req'd	Commodity	Issue Unit	J/C	Item Code	Units Issued
	GENERAL CLEANING MATERIALS						POLISH FLOOR "VISION"	CN		73141	
							POLISH FURNITURE	EA		73142	
	AEROSOL FLYSPRAY	EA		73001			POLISH METAL	EA		73143	
	AEROSOL FRESHAIR	EA		73002							
	AIR FRESHENER "DISPEL"	EA		73004							
	BAGS DUST ELECTROLUX	PK		73011			POWDER SCOURING	EA		73151	
	BAGS DUST NILFISK	PK		73012							
	BROOM HAIR SWEEPING	EA		73025			SCOURER NYLON PAD	EA		73170	
	BRUSH BANISTER	EA		73029			SOAP LIQUID ZALPON	CN		73176	
	BRUSH BOTTLE 2" x ¾"	EA		73031			SOAP TOILET	EA		73178	
	BRUSH BOTTLE 3" x 2"	EA		73032			STRIPPER POLISH "HI STRIP"	CN		73186	
	BRUSH NAIL	EA		73036							
	BRUSH SCRUBBING	EA		73038			WOOL STEEL	PK		73190	
	BRUSH W.C.	EA		73040							
	CHAMOIS LEATHER	EA		73050							
	CLEANER FLOOR 305	CN		73055							
	CLOTH DISH	EA		73060							
	CLOTH FLOOR	EA		73061							
	CLOTH GENERAL PURPOSE	PK		73062			CLEANING HARDWARE				
	DETERGENT LIQUID 750 ml	BT		73065			BOWLS WASHING PLASTIC	EA		65020	
	DETERGENT LIQUID 5 Litre	CN		73066			BUCKET PLASTIC	EA		65045	
	DETERGENT LIQUID TEEPOL	CN		73067			PANS DUST	EA		65130	
	DISINFECTANT LIQUID 5 Gallon	CN		73075							
	DUSTERS	EA		73085							
							CLEANING OTHER				
	FILTERS ELECTROLUX	EA		73091							
							PAPER TOILET – SOFT	EA		76136	
	HANDLE MOP DO ALL	EA		73100			SACKS LARGE NATURAL	EA		76160	
	HANDLE MOP "STA FLAT"	EA		73101			SACKS SMALL ORANGE	EA		76162	
	HANDLE BROOM	EA		73102			SACKS MEDIUM ORANGE	EA		76164	
	HOLDER BRUSH LAVATORY	EA		73105			SACKS SMALL GREY	EA		76166	
							SACKS ORANGE PLASTIC	EA		76168	
	MOP JUG	EA		73110							
	MOP SPONGE "MINUTE"	EA		73114			DUAL DIP	CN		74002	
	MOP SPONGE "MINUTE" REFILL	EA		73115			E.P.I.	CN		74004	
	MOP WET	EA		73116			OVEN CLEANER	CN		74006	
	MOP WET "STA FLAT"	EA		73117			O.E.D.	CN		74008	
							ZEROSPOT	CN		74010	
	PADS CIMEX 6½" COARSE	EA		73120			SANCLEAN	CN		74012	
	PADS CIMEX 6½" FINE	EA		73121							
	PADS CIMEX 6½" MEDIUM	EA		73122			BOWTOWEL 40	BX		72096	
	PADS CIMEX 8" COARSE	EA		73123			BOWIPES 9"	BX		72097	
	PADS CIMEX 8" FINE	EA		73124			BOWIPES 16"	BX		72098	
	PADS CIMEX 8" MEDIUM	EA		73125							
							MATCHES	BX		43001	
							TAPERS	BX		43002	

RECEIVED BY ..... ISSUED BY ..... DATE .....

APPROVED BY ..... RECEIVED BY ..... DATE .....

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